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EDITED BY

DR. ANDREW AND MR. CALLENDER.

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NOTE.

By an entirely unintentional oversight in compiling the Bibliography appended to my paper on the 'Morbid Histology of the Spinal Cord,' in the last Number of these Reports, I have omitted a reference to two papers by Dr. Batty Tuke and Dr. Rutherford, viz.: 'On a New Lesion observed in the Brain of an Insane Person,' Edinburgh Medical Journal, September 1868; and 'On the Morbid Appearances met with in the Brains of Thirty Insane Persons,' October 1869. This omission appears to me now the more unaccountable, inasmuch as it was from the study of these papers—copies of which were kindly sent to me by Dr. Tuke—that I derived my first insight into the real nature of the miliary sclerosis.

W. B. Kesteven.

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WILLIAM AND EDWARD ORMEROD.

BY SIR JAMES PAGET, BART.

I VENTURE to ask room, in the 'Hospital Reports,' for a paper alien from their general purpose, written 'in pious memory' of two brothers, who were distinguished pupils of the school, who seemed destined to be among its chief teachers, and whose good works may be prolonged in a record of their good lives.

William Piers and Edward Latham Ormerod were the fifth and sixth sons of George Ormerod, D.C.L. and F.R.S., a distinguished antiquarian, author of the 'History of Cheshire,' and of Sarah, daughter of John Latham, M.D., some time President of the College of Physicians. They were born in London—William in 1818, Edward in 1819. One of their uncles was Dr. Peter Mere Latham, under whose guidance, while he was in his highest repute as a clinical teacher, they began their studies at St. Bartholomew's. They were both educated at Laleham, and under Dr. Arnold at Rugby.

William Ormerod had not the qualities likely to gain favour in large schools. He was active, keen, and observant, but shy and slow of speech; he was not fond of classics, had no brilliancy of intellect, no ease in learning, no audacity; and so at Laleham he was treated very harshly, and at Rugby was neglected. He used to say that he would have worshipped Arnold if he could have earned from him a single word of encouragement; but he failed, and left Rugby, utterly disheartened, and with an habitual sadness and self-distrust. And yet his school life had been as blameless and as honest in its work as all that followed; and they who knew him well observed in him the deep religious feeling and earnestness of purpose which marked all his later years, and which Arnold strengthened by his example, though not with words. Dr.

Acland observed of him in later years, 'he had Arnold's detestation of evil as evil, and of all meanness wheresoever and by whomsoever shown.'

It was a very happy change for him when, on leaving Rugby, in 1835, he came to St. Bartholomew's. By the advice of Dr. Latham, he was articled, as a private pupil, to Mr. Stanley, who spared nothing to help him when he found him ready for any quantity of work. He was a very quiet student, and steadily and with great industry complied with the regulations of the College of Surgeons. In 1839 he gained great distinction in the School-Examinations, and in 1840–1 was House-Surgeon to Mr. Lawrence, whom he took for his best model in the study of surgery, and of whom he wrote, not long after the time of his House-Surgeoncy, the remarkable eulogy embodied by Mr. Savory in his Memoir in the 4th volume of these Reports. In 1842 he gained the Jacksonian prize for an 'Essay on the Comparative Merits of Mercury and Iodine in the Treatment of Syphilis,' in which he gave an exact account of the treatment then pursued at the Hospital. In 1843 he was appointed Demonstrator of Anatomy—a most happy event for the school, which was then greatly reduced in numbers, and discontented with some recent changes in the staff. He gave himself with all his heart to the work, and taught regularly for at least five hours in the day; not because he liked it, for he would much rather have studied practical surgery alone; but it had become his duty to teach anatomy, and he did it as if he loved nothing better. It was while he was Demonstrator that one saw most clearly the great influence of his moral character. It had been evident in his House-Surgeoncy, in the serious business that he made of all his work, and especially in the discouragement of all levity in the venereal wards; but it was more constant and effective when he was Demonstrator. He was one of those in whose presence few men would have done or spoken a wrong thing; not that he would have roughly resented or rebuked the wrong; he rebuked with silence, and a look of sadness hard to forget. I think that everyone felt that it would be brutal to offend wilfully a man so pure and upright, so able and willing to help, as he was. I remember, among many similar things, that he thus abolished the custom of smoking and drinking in

the dissecting-rooms. He knew that it interrupted study, and was often quoted as an instance of what was supposed to be the inhumanity of medical students; so he used to look as if he disliked it, and to say that he could not demonstrate at a table at which it was going on, and in a few weeks the custom ceased. He brightly illustrated what several years afterwards he wrote of others, but would have refused in reference to himself: 'A good man doing his duty really influences students, books rarely do;' 'The influence of an industrious, conscientious teacher is immense.' To this time I can trace results of his quiet influence in the school.

But the time during which he could personally exert his influence was very short. In 1844 his health failed. He had no definite illness; but he became thin and feeble, and could not bear the work of either the wards or the dissecting-rooms. He therefore resigned the Demonstratorship, and left London —for rest, but not for idleness. He arranged the volumes of cases and various observations which he had collected in the Hospital, and gathered from them the materials which, in 1846, he published, together with his Jacksonian Essay, in his 'Clinical Collections and Observations in Surgery made during an attendance on the Surgical Practice of St. Bartholomew's Hospital, from 1835 to 1844.' It is mainly a collection of facts such as he did not find recorded elsewhere. He used to read widely, and accept the statements of the best writers as facts for which he need not search anew; and then he kept on the alert for facts of which he had not read, or which he thought not surely settled, or not generally received. This deference to high authority in surgery he observed throughout life. As Dr. Acland, who knew him heart to heart in his best time, says, 'he held that the careful conclusions of certain men are all but certainly correct.' The points on which authorities were not conclusive, together with very brief illustrative cases, he put in order; and the order was characteristic; not according to any assumed scientific principle, but after the manner of the pathological catalogues which he was always carefully studying. The whole book is written with scrupulous care, and with scarcely a venture at any explanation of a fact; for, as he once told me, he always tried, when writing, to keep in mind the words, 'Is there not a lie in my right hand?'

Early in 1846 it was expected that there would very soon be a vacancy for an Assistant-Surgeon to the Hospital, and I wrote to William Ormerod about it. In his answer he said: 'I am going on well in every way, and have been roused from my even work by your letter. Some time ago it would have been a great destroyer of sleep to think that such a crisis had arrived; but latterly I had often thought the matter over, and had come to the conclusion that, whatever happened, I was better away from London. My duty is to employ well what I have learnt, and I hope to do it in some corner or other, but I am sorry to say St. B. is now to me but a remembrance, and past—GOD'S will be done; but I trust I may yet be useful and do elsewhere what, through my faults, I have lost the opportunity of doing there. . . . . I am afraid some may think that I had better either show myself, or not utterly give up all prospects for the future. But my own mind is fixed on the subject, and there are other spheres of usefulness, where good surgery is required, besides St. B. H.'

It was not long before he found a place to work in. In the summer of 1846 he went to practice in Oxford, and was very soon elected Surgeon to the Radcliffe Infirmary. This was just such a position as he desired. It gave him large opportunities for both the study and practice of 'good surgery,' intellectual society, rich stores of books, the constant presence and example of good men, and friends with whom he could work in the most intimate community of feeling and design. He was in the happiest time of his life; his health appeared completely good; he studied laboriously with Dr. Acland, collecting cases, recording, dissecting, reading; every week brought evidence of increasing prosperity in private practice; he was vigorous in the duties of his hospital, and in many attempts to improve it; he studied the 'Sanitary Condition of Oxford,' and an essay which he wrote on it was published by the Ashmolean Society. He seemed to have gained more than he had ever hoped to have; he had no longer the reserve and look of sadness which had been habitual with him since he left Rugby. Of his character at this time, Dr. Acland writes: 'A surgeon, equally learned, scientific, and practical, he was both cautious and bold in all he did and said. He was far-sighted enough to grasp at principles

through punctilious attention to details. Sympathetic and gentle, he was made to be friend of all, bosom-friend of some.'

For two years his life thus passed in nearly constant sunshine; and then, on a sudden, clouds darker than ever rose and overshadowed it. In December 1848, after a period of great hurry and anxiety, he had an epileptic fit; and soon the fits became so frequent, that he felt obliged to retire again from all active occupation. He left Oxford, and sought where he might live retired, and under constant care. It seems impossible to imagine a more admirable resignation than he showed. I remember a long walk with him in Brighton about this time; he spoke not one bitter word of sorrow; he felt as if his life were for ever clouded, but he rested content in the gloom. In a letter to me, referring to something which I told him Kempe, of Exeter, had said, he wrote:—

'Kempe's compliments remind me of Palm Sunday in the West of England, where they lay flowers on the dead men's graves. I am sorry to say my own feelings are hardly so pleasing; for I feel sometimes, in recommending myself as an inmate, like a man with a bad piece of money.'

In 1850 he found a home in Canterbury, where he lived with his friends, Mr. Reid and Mr. Andrews, for the last ten years of his life; and during all those years he was never idle, nor ever relaxed in his self-devotion to good works. He had resolved that he would never again attempt to practice in England; but, in the first years of his retirement, he was so well in the intervals between his frequent epileptic seizures, that he felt fit for quiet literary work, and could fairly hope that he might yet serve God somewhere with the knowledge he had laboriously gained. As he wrote to Dr. Greenhill:—

'I used sometimes to look at London as a chapter ended, and now Oxford seems one too; but still Providence, which aided me in those two places, may yet guide me elsewhere. I have no wish to be rich, or marry, or have more than food and clothing; but life is still very dear to me, and I would hope to help in what our own times seem to have granted to them in so marked a manner.'

And:

'The day is still granted to me to employ myself in work,

and I try to learn now those things which may be useful, if it shall seem fit to Him to allow me again to be a regular working member of a profession.'

The work which he now hoped to do was that of a Medical Missionary. It was the hope of finding help for this work in St. Augustine's College that first attracted him to Canterbury. He wrote, and often spoke, of it so vaguely, and with such indecision, that some thought him visionary; but he was only uncertain whether he would be permitted to fulfil what he never ceased to hope; and with hope he worked on steadily. He maintained his knowledge of surgery by reading and occasional visits to the general and barrack hospitals, and by collating all the most useful facts recorded in the Catalogues of the Pathological Museums of London, Edinburgh, Dublin, and Glasgow. He believed, and not unwisely, that he might thus be able to publish a book full of facts hitherto recorded in the least attractive form, and, while dispersed, comparatively useless; but the task was larger than he could complete. At the same time he studied pharmacy and midwifery, of which for his practice in England he had needed little knowledge; and hoping that his work might be in New Zealand, he learned all that he could of the Maori language, and of carpentering and gardening. He went to the carpenter's shop, and worked at his bench as carefully as ever he did in the rooms. I remember his showing me one of his first successes in morticing, with all the quiet and complete pleasure that he used to have in a good dissection.

Ten years thus passed, with changes almost too slow to be discerned. His love of good surgery remained, and he read or heard of its improvement with scarcely lessened interest; the successes of his old pupils were always happiness for him; he would give references to facts, and sometimes give opinions on them, but these with constantly increasing caution and timidity. Year after year his work, his religious reading, and his devotions went on, in orderly divisions of the day, and left no vacant hour. The hope of serving as a missionary could be found under every current of his conversation; he waited patiently, in quiet cheerfulness, hopeful and ready. But, however slowly, he was changing. With repeated epileptic

seizures, especially in the last two years, he became feebler and less capable of exertion; his mental powers diminished, even his memory of his long-treasured facts; he had no delusions, only less and gradually lessening power. And thus he lived-on, 'in calm decay and peace divine.' With failing hope, but never-failing patience, he resigned his long-cherished wish; surgical and other works of temporal interest were no longer on his table. But with the last remnants of his mind he was clear, industrious, and orderly. Each day was still divided, with portions due for writing, reading, and devotion. He collated the Gospels, wishing to have a harmony of them for his own use; he read more diligently than ever the works of those whose personal characters he most reverenced—Heber, Arnold, Wesley, Pusey, Simeon, Selwyn; four times a day he retired for devotion. In one of these retirements, on June 10, 1860, after a day in which, as his brother wrote to me, 'he had been even more than usually cheerful,' he fell in an epileptic seizure, and was found insensible and dying. He had fractured the base of the skull, and in a few hours he died with hæmorrhage from a meningeal artery. He was buried, appropriately, in the churchyard of St. Martin's, Canterbury, reputed to be the first church founded in England by the missionary St. Augustine. Mr. Reid, to whom I am indebted for an account of the last 'acts and thoughts of that good man, William Ormerod,' says: 'The tomb is the first on the left, as you pass the Lich-gate; and its position, rather easily passed over, in the presence of more conspicuous and elaborate memorials higher up the slope, always conveys to me a thought of his humility.'

With a brighter intellect, readier and clearer speech, and more taste for school-work, Edward Ormerod fared much better than William at both Laleham and Rugby. Arnold esteemed him as well for his ability as for the gentleness and purity of his character; and he left Rugby in 1838 in high repute, with an exhibition, of which, however, he could not avail himself, not being, at that time, destined for any University. He entered at St. Bartholomew's in 1838, and worked just as his brother had worked, steadily and in order; but, from the first, with a view to the practice of medicine.

In 1841, having decided on graduating at Cambridge, he entered at Caius College, where he obtained a Classical Scholarship. From 1841 to 1845, when he took the degrees of M.B. and L.M., he studied medicine and medical science at Cambridge as well as at our hospital, keeping his terms at one and his vacations at the other. At Caius he obtained a Caius Scholarship in Anatomy and Physiology, and a Mickleburgh Scholarship in Chemistry; and he delivered the Thruston speech in 1854. He took his M.D. degree in 1850, and was appointed Examiner for the M.B. degree in 1867 and 1868. In 1872 he was elected into the Royal Society. He married in 1853 and 1866; and, by his second marriage, had six children.

In or about 1844 Dr. Ormerod was elected Demonstrator of Morbid Anatomy, and worked incessantly in the dead-house and the medical wards, recording, dissecting, and analysing with only too much labour. In 1847, after his health had been for some time failing, he had an acute suppuration in the prostate and in one testis and its coverings, with extensive sloughing: and he very narrowly escaped death. After long convalescence he returned to his work, hoping still to be able to teach and practice in London; but it could not be; and, with threatenings of phthisis and frequent troubles at the neck of the bladder, he retreated to Brighton, that he might practise there.

The parallel of the two brothers' lives was strangely close. Both had worked hard with the just ambition, encouraged by all who would have been their colleagues, that they might be on the hospital-staff, elected solely for their merits; both were driven from their design by feeble health; and both, without loss of time, set themselves to do the next good thing that seemed possible. Without loss of time; for Edward also used his convalescence to arrange some of his materials for the press, and in 1848 published his 'Clinical Observations on Continued Fever.' The title will tell that the book was written before the species of 'Continued Fever' were discriminated; but I believe it might be still usefully studied as a careful and singularly well-written record of all the chief facts concerning fevers observed in the Hospital during nine years, ending twenty-five years ago. Many of the observa-

tions had already been published in the 'Lancet,' in part of a design 'to delineate the principal pathological characters, and the chief indications for treatment, of the diseases which are of most importance and most common occurrence in the medical practice of a large hospital.' The best part of the materials destined for this purpose are in five manuscript volumes in the Hospital Library, and it may be hoped that they will still be useful.

In Brighton Edward Ormerod soon regained health enough for practice. He limited himself strictly to medical cases, and practised as a 'pure physician.' At first he had to encounter the usual disadvantage of being thought 'only a pathologist.' As he wrote to me in 1849 :—

'My practice slowly increases. I have a little prejudice to get over that my practice is hospital-practice, and the most insidious questions are dropped as to whether I care for mere functional diseases; but chemistry stands me in good stead, and when I convict a self-styled therapeutist, in the gentlest possible way, of mixing two incompatibles, I have less to fear from remarks about mere pathology and diagnosis apart from treatment. But I manage to be on the best terms with all.'

The remarks soon ceased; his practice gradually increased both in money-value and in what he esteemed much more, the evidences of the esteem and confidence of the whole profession in the town and county. He never ceased to be a pathologist in even the narrowest meaning of the name; but he proved himself to be, also, a very able practical physician; he continued 'on the best terms with all,' and for many years was consulted by all, and had as good a practice as any one is likely to have who will practise in Brighton strictly as a physician, and will not resign the science for the sake of the profits of his profession.

In 1853 he was elected Physician to the Sussex County Hospital, and had the happiness of greatly increasing his means, not only of doing good, but of studying and teaching. No pupil of the hospital is likely to forget his exceeding kindness; the patience or the copious knowledge with which he taught in the wards and the dead-house; how he taught elementary anatomy, case-taking, clinical analysis, or whatever might be useful. His teaching was limited only by the

ability or inclination of his pupils; he had scarcely a greater delight or pride than in hearing of their success in their later school-life or in practice.

To his hospital practice he gave the early part of every day—the part which was least likely to be disturbed, and in which he could have the best hope of being strong enough for the work. And this he continued even when his health was so feeble that he often returned home quite exhausted. Accurate notes were taken of every case under his care; and, as Mr. Jowers wrote to me, 'all his clinical clerks carried away with them, on leaving the hospital, a substantial acknowledgment of the work done for him.'

He took a leading part in all the improvements of the hospital while he was Physician, but chiefly in improving all the means of scientific teaching that could be connected with it. For many years he had charge of the library of the Medical Society, and kept it in the most perfect state; but the museum was the chief object of his care. Mr. Jowers says:—

'Immediately after his election as Physician, he set about reorganising the museum, which, begun by Mr. Furner, had been added to by successive House Surgeons, but which he now took under his especial charge and retained till the time of his death. When he was elected, the catalogue was very imperfect, and some preparations were not correctly described. With the aid of the pupils he put up afresh all the preparations, doing all the mechanical work himself. Each one that required it was carefully examined with the microscope, and the history, with the microscopical appearances, entered in a new catalogue. He then analysed, classified and described all the urinary calculi, which are very numerous. Year by year new preparations were added, and were all put up by his own hand, and the histories carefully recorded. One specimen, the skeleton of a man who, originally 5 ft. 4 in. high, died with Mollities Ossium, shortened to 3 ft. 3 in., cost him several months' labour in the preparation and articulation of the fractured and distorted bones. He also articulated many skeletons of the lower animals, intending to lay the foundation of a museum of comparative anatomy.'

He worked at the museum with still increased activity when,

in 1870, the Governors of the Hospital began a new building for its reception, though now his health was failing fast.

'I am very busy,' he wrote to Dr. Greenhill, 'about our Hospital-Museum. The Governors have been very liberal indeed as to the building. I look with some anxiety as to who will undertake the work when my hand and eye decline. But one should not be deterred from a task because one cannot see how it will go on without one.'

From these sustained and various pathological studies Dr. Ormerod collected materials for numerous papers which he published in the Journals, the 'Medico-Chirurgical Transactions,' and our 'Hospital Reports.' These last are enriched, in the 4th, 6th, and 7th volumes, with important essays on Fatty Degeneration and on Degeneration of Bones, subjects at which he had worked for more than twenty years. In the first of these papers he gives a summary of all his chief observations; in the second and third an account of the degeneration very frequent in the bones of insane persons, and the cause of their liability to fracture by slight force. I think it would be very difficult to find essays in pathology, by any physician in active practice, better than these are. They give evidence of observation sustained through many years, of patient and ample study of everything relating to the subject-matter, of chemical and manual skill, of wide reading and of very cautious interpretation of facts; and their style is admirable. Every description is compact, yet clear, fluent and complete; every reference to the labours of others is courteous; the illustrations from sciences apart from medicine are numerous and apt. Briefly, they are such essays as only a thorough pathologist and cultivated gentleman could have written.

The frequency with which, in his essays, Edward Ormerod refers to studies in Natural History would tell his familiarity with them. They were his chief recreation. He had neither strength nor inclination for the general society of Brighton, or for any of its amusements; and, in the gentle happiness of his home, he gave the time of his leisure, and of the repose to which his frequent sufferings compelled him, to various readings, and especially to natural history. But that he might not even here be uselessly desultory, he chose one principal subject, and thoroughly investigated it: the 'British Social

Wasps.' In the preface to their Natural History which he published in 1868, he says:—

'Wasps have been my holiday-companions for many years; and wasps and wasps' nests have occupied much of the time which was forbidden to more serious employments. Beginning with an enquiry into the nature of wasp-paper, one question has led on to another, till the detached observations have insensibly grown into a continuous Natural History.'

I cannot judge of its scientific value; but it is a charming book to read; in many parts so bright and vividly true to nature, that it reminds of Gilbert White; telling of many long close watchings of his 'holiday companions,' whom he had 'learned to love'; and with many signs of sustained classical reading, and of shrewd observation of men and their ways. Of its worth in science, I may quote the opinion of Mr. Frederic Smith, the best judge of it, who has kindly written that 'Dr. Ormerod's work on the British Vespidæ is much more than a popular exposition. It contains a large amount of original observations; and by actual observations he confirms much that previously rested on mere supposition. . . . He has also contributed a large amount of original and valuable information on the Natural History of Wasps. Altogether, his work is the most valuable on the family Vespidæ that has been produced in modern times.'

In what time remained beyond that given to his practice, his pathology and his wasps, Edward Ormerod worked actively in arranging the natural history department of the town-museum, and in various investigations with the spectroscope, the electric light, or whatever might instruct or refresh his mind without distracting it. The last subject that he undertook was the change of colour in Gurnards. This was his chief use of the Brighton Aquarium.

If we count up all the work that Edward Ormerod did, it may seem enough for the long life of a strong man. Its merit is vastly increased if we remember that he died when fifty-four, and that in the last twenty years of his life he was more often and longer in suffering and feebleness than in good health, and could never bear severe fatigue. He had never been robust, and the illness of 1847 had weakened him, and so damaged his prostate and urethra, that he hardly passed

a year without repeated and sometimes severe obstruction and passage of prostatic calculi. To these were added in 1865 the miseries of a vesical calculus, which he endured for nearly two years secretly 'from fear of giving trouble'; and, within two years of his being relieved by lithotrity, a medullary growth began to form in the bladder. Slowly, this wore him out with hæmorrhage and terrible pain. The history of his case, which I have from Mr. Jowers—whose loving care and skill were among the greatest comforts of his life—is a record of distresses such as, in a few years, would have beaten down any but a thoroughly religious man of very rare courage. But he bore them all patiently, submissively, and, when he could, concealed them that others might not be made unhappy by them. To the last he preserved the charm of his glad ready smile, and spoke of his own case as calmly and clearly as of any other, trying only to make his sufferings seem light. He died in March of this year; his funeral, attended by a crowd of rich and poor, declared the high esteem of all among whom he had lived; and in memory of him a scholarship is to be founded by his friends for the perpetuation of the care which he had for the instruction of pupils of the Sussex County Hospital.

Such were the Ormerods. I believe it is not only my affection for them that makes me think their lives should be recorded, both for just praise and for lessons that may be read in them. I only wish that my record could teach all that I studied in them; for, to have known them (I use Dr. Acland's words) is one of the responsibilities of my life.

Chiefly, they were very dutiful. Whatever came to be their duty, whether through choice or circumstance, they did it with all their might. Learning or teaching, practice among the poor or among the rich, work for the present or for the future, —if it was duty, it was done. And they did not go far away, or take much thought, to find where or what was their duty. It was always at hand, in the common business of their calling, or if beyond this, in the nearest and best work for which they could fairly, or even modestly, think themselves fit.

From their devotion to duty more than from anything else came their success. Marred and narrowed as it was by feeble health, it was yet as complete as time and health permitted.

They had, indeed, considerable advantages for success; advantages of mental inheritance, of early and long intellectual culture, and of freedom from poverty even when disabled from work; both had remarkable intellectual power, patience, gentleness, and shrewd good sense; and Edward had a singular clearness in both speaking and writing. But neither of them had any of the qualities which are too often spoken of as the great aids to success in our profession; neither of them had boldness or vehemence of speech, or ease of manner, or knowledge of the world (so-called), or readiness for intimacy or an impressive appearance. They were modest, shy, very cautious, reserved and very sensitive; rarely moved to strong expressions of opinion, unless on some matter-of-fact or clear conclusion.

The ill health which alone, we may believe, hindered their complete success, brought out to clearer light their singular courage and patience under the disappointment of their fair ambitions. They could not but have felt, sometimes, how their work, if it had been done in London, as they had hoped, would have brought far more brilliant success; how great might have been their distinction and utility as teachers, and as leaders in scientific surgery and medicine. And yet I believe that no one ever heard from them a bitter word of regret or discontent. Turned from the course of life they wished for, they went into that which then seemed best, and did their best in it. With equal patience they endured the weariness and pain of disease; and not only with patience, but with hope; for they believed that the end of suffering would be in perfect joy. They had studied human life in all its aspects, and had learned nothing concerning it of which they were more sure than that it was benevolently designed to be the way to an eternal happiness. And with this confidence both could say, 'We reckon that the sufferings of this present time are not worthy to be compared with the glory that shall be revealed in us.'

Modest as they were, shy and free from everything like self-assertion, the Ormerods exercised great influence. Over all who were associated with them they had the influence accorded to those who are respected for being always just, virtuous and very prudent, though, on just occasion, not afraid to maintain hard truth; over intimate friends they had, besides, the in-

fluence of those who are loved for wisdom, purity, tenderness, and watchful courtesy. Whether for love or respect, or both, all felt their influence; none would have entered on a plan in which either of them was likely to take part, without first asking, 'What will Ormerod think of it?' Yet their influence was silent, and I believe they were as unconscious of it as they were of the power of their good examples in kindness, charity, laborious industry, purity and devotion.

FREDERIC CARPENTER SKEY, C.B., F.R.S.

Frederic Carpenter Skey, one of the chiefs of that great school of surgery of which Abernethy was once master, and indeed the founder, was almost the last of Abernethy's private pupils.

Skey, the second of six children, was born at Ashton-on-Severn on December 1, 1798. He was at one or two private schools in early life, the last being that of the Rev. M. Maurice, the father of Frederic Denison Maurice, who was his schoolfellow, and between whose family and Skey's there long existed a close intimacy.

Having expressed a wish to enter the medical profession, he was invited to spend some months with his father's cousin, Dr. Skey, who then held the appointment of Inspector of Hospitals, and was stationed at Plymouth, as it was reasonably thought that a short residence with that accomplished and most amiable gentleman might be of service to him before the commencement of his regular studies. It was during his stay there that Napoleon was brought to Plymouth on board the Bellerophon, and Skey would often afterwards refer to what he then considered his good fortune in having this opportunity of seeing the fallen Emperor. From Plymouth he went to Edinburgh for a year or two, to begin his medical education in earnest, and subsequently for some months to Paris. On his return to London he became what was then called an apprentice to Abernethy, to whom he was articled in April 1816. He was

admitted a member of the College of Surgeons in April 1822. Three or four years afterwards he was appointed by Abernethy Demonstrator of Anatomy at the Hospital; not, however, it has been said, without evoking considerable jealousy. On the death of Abernethy other arrangements were made, which Skey, with reason, resented as unjust, and consequently resigned his appointment.

Then, associating with himself some other men of great ability, and who were afterwards highly distinguished, such as Hope, Todd, Marshall Hall, Pereira, and Kiernan, he reopened the Aldersgate School of Medicine. This school, in their hands, soon became famous. It was, for several years, very successful, one of the largest in London, and, with the energy of youth, proved of course a formidable rival to its venerable neighbour. In this school Skey held the chair of surgery for ten years. His lectures were very attractive, and highly appreciated by the students, many of whom subsequently became his staunch personal friends. In this period of his career, indeed, he gave abundant evidence of the remarkable power which throughout life he possessed of winning friends. There was, more especially in his bearing towards students, a frankness and cordiality which drew into intimate and enduring friendship not only his own private pupils, but always the great body of students, over whom he exercised an amount of influence larger, in some respects, perhaps, than that of any other teacher.

But at length fresh arrangements were made at the Hospital, which included the return of Skey. It was a great day for the old school of St. Bartholomew's, when it shook off a lethargy which for years had been gradually creeping over it, and awoke to a new and vigorous life. It was, in truth, high time to make some change. Lawrence still continued to lecture on surgery, but in 1843 Skey was elected to the chair of anatomy, and Paget to the chair of physiology. Skey held this appointment for twenty-two years.

In August 1827 he was elected Assistant Surgeon to St. Bartholomew's Hospital, but it was not until May 1854—nearly twenty-seven years afterwards—that he became Surgeon. He was then in his 56th year, and, according to a rule of the Hospital, he retired from this post in January 1864, at

the age of 65, having held it not quite ten years. Then he was unanimously elected by the Governors to the complimentary office of Consulting Surgeon.

In 1848 he was elected on the Council of the College of Surgeons, and in 1850 he was appointed Hunterian Orator. The subjects of his discourse, which was subsequently published, are various and somewhat disconnected, but it is characterised throughout by refinement of thought; and, especially towards the conclusion, where he speaks with enthusiasm of the beauty of nature and art, it contains many elegant passages.

At this period of his life (1850) a portrait of him in crayons by Mr. Maguire was published. This simple and unpretending sketch is a singularly happy one—a striking likeness, not only of his countenance and expression, but also of the very air and manner of the man. The salient points of his character are well brought out, and it is not difficult to find there intelligence, energy, courage, candour, and good-nature. Perhaps it is the best of Mr. Maguire's very excellent series. The curious resemblance of Skey's head and face to the bust of John Hunter has been generally noticed. Indeed, his own bust is far less like him than the well-known one of Hunter.

In 1852 Skey was appointed Professor of Human Anatomy and Surgery to the Royal College of Surgeons. He held this office for two years. Besides other subjects, he discoursed on Muscular Action, Dislocations, and devoted two lectures to a discussion of the Prevalent Treatment of Disease. The first of these was on the question, 'How far it is compatible with the principles of sound pathology to treat disease by the agency of depletion,' and the second 'On the treatment of disease by the agency of tonics.' These were subsequently published in 1853. He himself was thoroughly impressed with the value of the 'tonic' treatment, and for many years omitted few opportunities of enforcing his views. At this time he got into some trouble for overstepping the bounds of surgery. In his enthusiasm he conceived that phthisis, which he regarded as beyond all others a disease of debility, would be a far less fatal affection if at its commencement this plan of treatment were fully carried out. So he tried his hand at

some cases, principally, I believe, from among his friends, and then of course comments were made upon such a breach of professional rule, and some perhaps were not sorry of the opportunity thus offered of retaliating for past grievances, real or imaginary. But those who knew him best knew very well that he had done only a thoughtless, say even a silly thing. They had no suspicion that he was ever influenced by any more unworthy motive. His whole nature contradicted the assumption that he could be deliberately unfaithful to the trust he held.

In connection with this subject—the so-called tonic treatment of disease—the fruitful theme of so much controversy, it should be recorded that for many years Skey was accustomed to denounce beef-tea and all other 'slops' as of very little efficacy in sustaining strength. He always insisted that their value as a form of food was in great measure illusory, or at least vastly overrated, and this in the teeth of the doctrine of Liebig, which for a long while swayed the profession and the public. Now of late the captivating views of the brilliant chemist have passed into the shade, and his science sanctions the conclusions which Skey and some others had long before reached by experience.

In 1855 Skey was elected a member of the Court of Examiners of the College of Surgeons. The duties of this office he discharged faithfully for ten years, for he was re-elected in 1860. He liked the work, and took pains with it, being deeply impressed by its responsibilities. The best mode of conducting an examination was a favourite topic of discussion with him, and he justly attached the highest importance to the form in which a question is put. He thought that inability to appreciate the drift of a question at the moment was sometimes misinterpreted into ignorance of the subject, and he used to say that he always watched himself jealously in this respect, to avoid an unfair judgment. It has been said that he was somewhat crotchetty. Perhaps he was. But his crotchets were of course pretty generally understood, and candidates, with their usual courtesy, were wont to pay him the compliment of temporarily acceding to his views.

In 1859 he was elected President of the Medico-Chirurgical Society, and in 1863 President of the College of Surgeons.

In 1864 'the Secretary of State for War and the Board of Admiralty, with the view to diminishing the injurious effects of the venereal disease on the army and navy,' 'decided on instituting a committee to enquire into the best mode of treatment of the disease.' Of this committee Skey was made chairman, and from the very first he threw himself with characteristic ardour into the business. The labours of this commission are recorded in a volume entitled 'Report of the Committee appointed to enquire into the Pathology and Treatment of the Venereal Disease, with the view to diminish its injurious effects on the Men of the Army and Navy.' The whole of this volume, with the exception of a short but important preface, consists of a literal report of the examination, and to some extent the cross-examination, of most of the more prominent English surgeons and some others, respecting their views of the disease—of its nature, causes, effects, mode of propagation, pathology, treatment, and prevention. The volume is full of interest in more senses than one, and it will amply repay attentive examination. The whole subject is discussed in a multitude of questions and answers of most various kinds, which are by no means heavy reading. The form of dialogue, too, is rather novel, and on that account perhaps more attractive. By this, at least, much prolixity is avoided, and you catch at once the gist of each paragraph from the question put. No other volume contains nearly so much information on all the great and vexed questions which beset the subject; but then, of course, in the multitude of councillors there is the utmost possible diversity of opinion. Yet perhaps a profitable analysis of these various examinations is not insuperably difficult. They differ so widely in style, and the replies themselves so often contrast not more strongly in substance than in character, that it would seem by no means impracticable, in the face of such inequality, to select those answers best entitled to reliance.

The book is, of course, not fit to be used as an introduction to the subject. Such a discussion, bristling with such contradictions, could lead to nothing but confusion; but to the initiated its review must be very suggestive, and of great value.

The result of this enquiry was the framing of the Contagious

Diseases' Act—an Act which, although virulently assailed and unscrupulously denounced by many, has secured the approval of the great majority of those who have watched its operation and are qualified to judge of its effect.

As an acknowledgment of the manner in which he discharged the duties of chairman, Skey was made a Companion of the Bath.

For some little time after he had retired from the office of Surgeon to the Hospital, Skey continued to lecture on Anatomy, and almost up to the last he gave lectures on Clinical Surgery. During the later two or three years of his life his health failed in various ways, and very often he was subjected to considerable distress. But, in spite of physical infirmity, he seldom shrunk from his work, and bore all, even his last illness, with simple unaffected courage and cheerfulness. He died on the 16th of August 1872.

As an author Skey is well known, although, or rather perhaps because, he wrote comparatively little.

In 1837 he contributed a paper to the Royal Society, 'On the Elementary Structure of the Muscular Fibre of Animal and Organic Life,' which was published in the 'Philosophical Transactions' for that year. In this paper there is much honest work, and some important observations have stood the test of subsequent enquiry. A paper like this, on a subject of minute anatomy, was highly creditable to the author, for at that time much encouragement was not given to investigations of this kind. Even the microscope he used belonged, as he tells us, to a friend, and was borrowed for the occasion.

Let it be remembered that such a paper, when read now, is necessarily subjected to a severe ordeal. For the statements it contains are naturally contrasted with the facts within our present knowledge far more strongly than they are with the views which were current prior to its publication. Thus advances in truth are thrown into the shade, while accompanying errors stand out in high light.

In the same year he was elected a Fellow of the Royal Society.

In 1837 also he published a small volume, 'On a New Mode of Treatment employed in the Case of Various Forms of Ulcer and Granulating Wounds.' The new mode was the internal

administration of opium. His doctrine, which he taught to the last, was that opium, given in small doses at regular intervals, exercises a remarkable influence on the capillary circulation, promoting it, and in this way conduces to the repair of those chronic ulcers of the leg which so abound in the out-patient rooms of our hospitals. The similar use of the same drug was his great remedy for bad chilblains. He thought that in this distressing complaint opium went farther as a remedy than any other means. In the same way he argued that this drug, if properly administered, would assist in maintaining and diffusing animal heat, and he actually proposed its use for our soldiers in the Crimea during their winter nights' work in the trenches before Sebastopol.

In 1840 he published 'A Practical Treatise on the Venereal Disease, founded on Six Lectures on that subject, delivered in the session of 1838–39 at the Aldersgate Street School of Medicine.' Any one who will carefully read this little book by the light of what is at present known of the disease, bearing in mind the time at which it was written, and the confusion which then, and since has, prevailed on almost every question connected with the subject, must be led to form a very high opinion of the author's penetration and skill in dissecting evidence. It is true that the views set forth in the volume cannot claim to be original; but it is obvious that the conclusions have been drawn directly from clinical study, and hence possess a value, and still a freshness, which even now well repays perusal. Tried by the doctrine of the present day, assuredly the work will bear comparison with any that has been written since, whether for accuracy of observation, fidelity of description, or elimination of error. This work has been, perhaps, too heedlessly overlooked. Its merit appears to be very great —all the greater when we consider the doctrines on this subject of the great school in which he had been educated, and the authority around him to which the author was opposed.

In 1841 he published a pamphlet 'On a New Operation for the Cure of Lateral Curvature of the Spine; with Remarks on the Causes and Nature of that Disease.' The new operation was the subcutaneous division of the 'tendinous layer' that invests the longissimus dorsi muscle.

In 1851 was published his largest work, 'Operative Surgery.' Among its more striking features may be noticed:

The space which he devotes to a consideration of the principles which should regulate the judgment of the surgeon in respect to an operation, and to the discussion of the many questions which such a consideration involves. He is not content to describe merely how an operation, if decided on, should be performed, and to notice the various details which are worthy of adoption—although, upon the whole, he cannot be charged with any very important shortcomings in this respect—but he insists with especial force upon the conduct of a case before and after an operation; before, with the object of averting the catastrophe by the application of every resource and expedient of scientific surgery; after, with the view of bringing every case to its earliest and most successful issue. These portions of the volume were undoubtedly a labour of love. He was the uncompromising champion of conservative surgery in its highest and noblest interpretation. 'I have endeavoured,' he says, 'as an English metropolitan surgeon, to carry into execution at least one primary object—viz. to strip the science (art?) of operative surgery of a false glare, mistaken by the ignorant for the lustre of real excellence, to check a spirit of reckless experiment, and to repress rather than encourage the resort to the knife as a remedial agent.'

It would seem, indeed, that the great lesson on which Skey insists still needs enforcing; for the 'British Medical Journal,' in a leading article within the last year (October 12, 1872), says of surgeons: 'The mechanical part of their profession has acquired so great an importance, and there are so many examples of successful surgeons who are little more than gentlemanly, cultivated, and well-informed mechanicians, that many of the rising generation of surgeons are still disposed to look but little beyond the knife.'

Throughout the work there is an energetic protest against the use of the knife except as a last resource. In the preface to the first edition he wrote—and it may be worth while to reproduce his words—'As in the pursuits of practical surgery, the knowledge of "principles" exceeds greatly in value that of the details of practice, because the principles form the rule of conduct, and the practice the deduction; so a knowledge of the

principles of operative surgery, which ought to regulate the conduct of the surgeon in undertaking even the least critical forms of operation, is all important as the guide and loadstar of our conduct. It is a consideration of far less moment in what manner an operation be performed, provided it be executed with safety, than is the previous decision of its actual necessity. The question of appeal to the knife involves the principle, its employment the practice of operative surgery. In no department of professional duty are the rules of conduct so imperative as in that which proposes the removal of a portion of the body, or the exposure of its internal structure by instrumental agency, because the effect of local violence is always felt as a blow to the integrity of the frame, although the operation itself, thanks to a great modern discovery, may be rendered painless.'

Again: 'The knowledge which determines the necessity of the operation is far more valuable, and far more difficult of attainment, than that which is required to qualify a surgeon for its performance. The one qualification involves both the moral feeling and the intellect of the surgeon. The other more prominently demands the exercise of his physical functions.'

And in the preface to the second edition in 1858: 'By conservatism I do not understand only the exercise of that ingenuity and dexterity which would substitute a less operation for a greater, but that infinitely higher surgery which aims at restoration rather than at substitution—which truly regards the knife as a last resource, and its employment under any circumstances as a confession of ignorance.'

In his catalogue of the collection of statues and busts in the Crystal Palace at Sydenham, Samuel Phillips wrote of Skey: 'The author of a work on "Operative Surgery," in which a strong and humane plea is put forward against the use of the knife until the last extremity.' The great critic and essayist knew very well that Skey was famous as an operator.

The emphasis with which he insists upon the mischief done by reducing in any way the vital powers, and the general value of tonics and stimulants. Referring to the tonic plan of treatment in the preface to the second edition, he says: 'What

does it mean? Surely this, that the more closely we scrutinise the phenomena of disease and study its lessons at the bedside and in the theatre by the light of physiology, the more plainly are we taught to rely upon nature for repair and recovery—the more distinctly are we warned not rashly to obstruct her by an unpatient interference, or, by exhausting her resources, to frustrate her designs. We are taught to be more expectant; to watch her actions in order to assist them by husbanding the forces with which she works.'

The principles which should guide the surgeon in the reduction of dislocations. He advises the surgeon to rely upon simple extension, inasmuch as 'the immediate act of reduction is effected by the muscles and by them alone.' He thinks very lightly of the various manœuvres often practised. 'An experience of thirty years of every variety of dislocation, in St. Bartholomew's Hospital and elsewhere, long since taught me the futility of such attempts.'

The refracture of bone when badly united. This was also the subject of a paper which he contributed to the Medico-Chirugical Society. It is published in the forty-second volume of the 'Transactions.' He shows that when bones after fracture have been so united as to produce much shortening or deformity of the limb, they may often be rebroken and reset with advantage. He records cases of refracture at the expiration of eleven and seventeen weeks, and in a boy of fifteen years after a lapse of thirteen months.

In operating for the ligature of arteries the advantages of an oblique incision over one parallel to the course of the vessel; and the incision he conceived to be the best adapted for ligature of the subclavian.

The treatment of varicose veins by eschars.

The treatment of enlarged bursa over the patella by seton.

The operation he preferred in cleft palate.

Under the head of Autoplastic Operations he describes his method of treatment of the contracted cicatrices of burns. It consists in making a large number of very small transverse cuts, so that when the part is subsequently extended its aspect 'presents much the appearance of the ornament cut in paper by children, and termed a Jacob's Ladder.'

In 1867 he published six lectures on Hysteria. This had

been a favourite subject with him for many years. He had been strongly impressed by Brodie's view of the affection, and had arrived at a similar conclusion with regard to the frequency of the disease and to the many errors of diagnosis to which it gives rise. But he held that the etymology of the word had grievously misled practitioners as to the cause of hysteria, and usually offered the most uncompromising opposition to any of the modes of local treatment founded thereon. Here again he still prominently insists upon the advantage of the 'tonic' plan of treatment over the use of depletive measures, even in those cases in which the latter are often resorted to.

In the first lecture he forcibly contrasts the 'tonic' plan of treatment with the other modes in the instance of 'milk abscess.' His arguments may fail to win assent, but they are worthy of attention. He declares that the mischief depends on debility. 'Had the weakness not existed, she would have escaped milk abscess.' He condemns the use of purgatives, salines and leeches, and concludes: 'There are two agents, in addition to good nourishment, especially applicable to the treatment of a case of this kind—bark and wine.' 'Among medicaments cinchona bark has no rival. In all cases of abscess bark is invaluable. It promotes suppuration when suppuration is inevitable, and it checks suppuration in the exhausting action of chronic abscess. It promotes appetite, and gives vigour to the system beyond any other known tonic, and it is only on this principle that it carries our patients rapidly through the different stages of disease. I prefer the simple tincture of bark, and I recommend you to administer it in full doses of from one to three drachms twice a day. For adults I generally recommend a dessert-spoonful, and not less, and I have not observed that its employment in such doses demands the corrective influence of either purgative or alternative medicine; but on the contrary, as I refer any temporary torpidity of the actions of the alimentary canal to the want of that vigour of system, and to that only, which the bark is capable of correcting, so, as a rule, subject of course to occasional exceptions, I leave the bowels alone.'

In the preface he says: 'On a line between the antagonistic principles of the schools of Cullen and Brown, the profession will eventually take its stand—at a point, I suspect, far nearer

to Brown than to Cullen. This is the natural reaction following on years of error.'

Before taking leave of the work it may be interesting to reproduce here Skey's opinion on the question of the time:—

'In these days of lively activity in the cause of physical and mental education, when young men strive for muscular superiority, and the eyes of a nation are attracted by contests in which skill plays but a secondary part in the struggle; when every town and every country parish proclaims the triumph of muscle by furnishing competitors to the lists—in these days, when the attempt is seriously made by men of influence to drag women from their natural paths in life, to claim for them political rights, to infuse a taste for political controversy, that beautiful element of domestic discord; when the modest retirement of home is invaded by a taste for clubs, and colleges, and professional instruction, and the domestic duties of women are superseded by the study of Greek and Latin, of mathematics, of logic, and other hard matters of man's education, so essential to his future career through a life of labour; and the muscular element of women finds advocates in calisthenic exercises and muscular contortions of the frame—it may be contended, and I am not prepared to deny, that such treatment may exercise a prophylactic or preventive influence on hysteric constitutions. I am, however, no advocate for the vain attempt to masculate the female mind, by identifying the educational pursuits of the two sexes. Besides, the disease is rare, as compared with the multitude of persons involved in the proposal; and it is not very reasonable that the many should suffer for the few. Granting the possible benefit to the few, this is the only argument in favour of a system of education which, in my humble opinion, is subversive of woman's great mission in the world.'

A second and a third edition of the work were subsequently issued.

He could, and often did, write very well. His shorter essays and letters are, for the most part, particularly good—much better than his larger and more ambitious works. Throughout his letters there is a manliness of tone which is very characteristic. Many, for example, will remember the vigorous letters which appeared some years ago in the 'Times'

newspaper on the mischievous effects produced by the severe training and excessive exertion which rowing-matches and other athletic sports entailed. These animated protests against the abuse of our national games provoked of course replies, but his strongest arguments were left unanswered, and the fact remains that in certain instances health has been thereby damaged or destroyed. One point in particular of Skey's case is worth attention, that muscular vigour—physical strength—does not necessarily imply organic soundness. A man may excel as an athlete, and yet there may be a fatal flaw within him. There is evidence enough of this, but how often has it been revealed too late! His longer productions are more unequal; indeed it must be confessed that anything like sustained effort was not agreeable to him. He was singularly energetic in thought and action, but averse to steady, constant labour in any one direction, and hated the bare idea of plodding through a difficulty. This disposition of his was abundantly illustrated in the way he wrote his book on operative surgery. Encouraged to undertake the task by a friend who offered to publish it, he set about it instantly without any previous preparation, or even special attention to the literature of the subject. He wrote chapter after chapter right off—literally 'out of his head' as boys say—and this mostly in the middle of the night or very early in the morning, for he was a restless sleeper, and would often rise at twelve or two and write articles or letters for a couple of hours. Moreover an article or chapter once written was, for him, finished. He could not be brought, under any circumstances, to rewrite it, and it was with impatience that he even read it over. Considerable amusement was once caused by the embarrassment to which he was put by the loss of some manuscript. In going from his house to the Hospital one day he dropped from his pocket a chapter of his book on operative surgery, and it would not be easy to forget the look of horror with which he met the suggestion that he must write it over again. He vehemently declared such a task as that to be wholly out of the question, and unless the missing manuscript were recovered the work must either be given up, or published without the chapter. Happily, through an advertisement in the 'Times,' the lost sheets were speedily restored.

Now it is easy to see that a greater amount of painstaking would have made his work less desultory and more complete; but the fact, nevertheless, should not be lost sight of that excellent as it often is, not seldom original, always independent, and usually put with considerable force, it was produced with so much freedom and rapidity.

In his style as a lecturer Skey had no doubt been largely influenced by the example of his old master, Abernethy. Whatever the subject in hand might be he never attempted an exhaustive description of it, or even to enter at any length into detail. His habit was to select some of the chief points presented by the subject, to dwell with emphasis upon them alone, urging them again and again upon the attention by repeating the lesson in various ways and illustrating the fact or doctrine by all manner of anecdotes, good, bad and indifferent. Thus his lectures on anatomy were very far from being a complete course. In most parts of them all minute anatomy was omitted. In some, as the nervous system, which came towards the end of the course, the whole subject was very lightly and rapidly passed in review. But then on other matters he loved to linger. All his pupils must remember his two lectures on the thoracic viscera, and the evident pleasure with which, after for awhile dallying with the subject, he laid open the pericardium and demonstrated the heart in situ, and then the relations of the arch of the aorta. His lectures, too, on the mechanism and movements of the joints, and on the attachments of muscles in reference to their mode of action as levers, were among the most conspicuous of the course. Who that heard them can fail to recall his lectures on the action of the glutæus maximus, the scaleni or the intercostals, and the movement of the ribs? How excellent, from an educational point of view, was the precision with which he demonstrated the attachments of certain muscles, as for example, very early in the course, those to the occipital bone. Then, in his lectures on the urinary organs, how earnestly he insisted on his own views of the arrangement of the pelvic fascia, and the fallacy of describing the triangular ligament as consisting of two layers. It has been objected that Skey was too fond of enforcing his own convictions, but be it remembered that these convictions had been honestly formed, and were never set

forth as simple dogmas, but always argued at considerable length. Thus, even though the final result were opposition to his views, Skey often did good service by rousing men to think.

With all his disquisitions a great deal of surgery proper was mixed up. Thus when upon the joints, he always treated fully of dislocations, and his views of the best mode of reducing them. Throughout the course he did not so much lecture on human anatomy, in the full and simple acceptation of that term, as upon that portion or application of it which is understood by the phrase 'surgical anatomy.' In fact he put as much surgery, at the expense of anatomy, into the course as the regulations of the school would allow; although he possessed, even late in life, a very thorough knowledge of surgical anatomy, and was singularly accurate in detecting the relation of parts even under conditions of unusual difficulty. As a speaker his voice and manner were pleasant and impressive, and his expositions clear. His lectures were always well attended, and he was undoubtedly a popular teacher.

That mode of lecturing to which reference has been made above has, it must be admitted, its advantages to perhaps the majority of men. If a lecture is full of matter, however important that may be, the greater portion of a class will inevitably fail to grasp it all, either from lack of previous training, uncultivated memory, listlessness, or want of sustained attention. Most of those who listen to a lecture carry away but a sorry fragment of the whole, and this even assuming the lecture and lecturer to be tolerably good. No need to point to the result when the lecture is neither lucid nor well arranged; when it is disorderly or monotonous, yielding no evidence of work or love. Assuming, I say, the lecture to be at least an average one, only a very small portion of it is retained for any time by the great majority of a class. Therefore it must be admitted that there is a sort of case for those who stoop to this necessity, and argue that we ought to lecture to the majority, and that a very little, thoroughly digested, is better than much more which, however temptingly it may be served, is only tasted and passed on. But the worst of this system is that the best men, albeit the very few, are almost starved. If the lecture is brought down to the majority, it

must needs be below the level of the best; so that in time these are apt to turn away with contempt from what they, sooner or later, come to regard as waste of time, to seek elsewhere the knowledge they aspire to. And the lecturer himself not only misses the nobler aim of his office, but is in constant danger of being, by this style, reduced to a grinder; of teaching what will barely suffice for the needs of the students at examinations, without heed of the higher demands of professional education. In a word, it is inviting the best men to come down rather than endeavouring to raise inferior men to a higher level.

Skey's great ability as a surgeon was most conspicuously shown in his management of extraordinary cases; for he was skilful, even to ingenuity, in diagnosis, and, in the face of unusual difficulties, very fertile in resources. Some one has said that the greatness of a surgeon is shown, not so much in the observance of the rules of surgery, as in his knowing when and how to break them. Skey, in more than one instance, illustrated the truth of this aphorism. He was too sound a surgeon, too familiar with the leading principles of his science and art, to recklessly violate them on the impulse of every fresh suggestion; he did not break them without good reasons for the when and how; but on rare occasions he would act with a happy audacity, and justify a brilliant achievement by complete success. In such cases his thorough knowledge of anatomy often stood him in good stead; his calculations of the seat and extent of injuries, founded on his singularly accurate knowledge of the relations of parts, even to minute measurements of their distance from each other, were often strikingly correct. He was a bold but not a rash surgeon.

> Not clinging to some ancient saw,
> Not master'd by some modern term;
> Not swift nor slow to change, but firm.

And in practice he never despised detail. No point in the management of a case was too trifling for his attention. Even though, perhaps, too often in a hurry, he was always patient in listening to all complaints, and his consideration of suffering was appreciated by hosts of patients, and gained for him many ardent admirers and grateful friends.

As an operator he was dexterous; oftentimes brilliant. He was, indeed, as free from awkwardness of every kind in manipulation as from all vulgarity of idea, and abhorred not only actual, but apparent roughness. He was not slow to express his repugnance to every form of clumsiness, and was himself particularly neat, not only in all steps of the operation, but in every arrangement, to the minutest detail, of dressing. It was his endeavour, especially in private operations, to soil anything about the patient as little as possible. He would invariably exercise the most scrupulous care to avoid a spot upon the dress. It was his pride to escape this catastrophe, and the earnestness with which he laid this injunction upon assistants often raised a smile. Under any circumstances he was loath to leave a room until all unpleasant evidence of his work, to the slightest traces, had been swept away. In his best days his style of operating was singularly graceful. Hence he excelled most in those proceedings which especially require delicacy of touch. His operations, in past years, for cleft palate, were highly finished, and he had few rivals in the skill with which he performed lithotrity. But his singular dexterity in particular cases was the less remarkable because of his general excellence as an operator.

In social life Skey was a charming companion; genial and refined, playful—full, even in advanced years, of the buoyancy of youth—he could enter with heartiness into the sports and amusements of the young, in whose society he took especial pleasure. He had an ardent love and keen appreciation of the beauties of both nature and art. He was ever eager to escape into the country, and by preference to 'where Thames among the wanton valleys strays.' His extreme tenderness to animals must not be forgotten. He was never without some 'pet;' and a favourite dog, his constant companion during the latter years of his life, was well known to his friends. He was a genuine admirer, and by no means a contemptible critic of painting and sculpture; but his chief pleasure was in good music, of which he was passionately fond, and many friends will remember the attractive evenings in Grosvenor Street devoted to Beethoven and Mozart. In recalling those days I am tempted to raise, for a moment, the veil of his private and domestic life so far as to show him, as he was for many years,

the centre of a happy and delightful family circle. Here he did not fail to find ample consolation in all the anxieties and troubles of work; and it was pleasant for those who had known him at times sorely harassed out of doors, to see him at home as cheerful and light-hearted as though he had never felt a care.

He has gone now, but Skey has left a name to which English surgery will point with pride. He was endowed with great natural ability and energy, and throughout life he enjoyed excellent health. He was trained in the best of schools, and was always within reach of advantages for the cultivation of his favourite pursuit such as very few can command. He rose to the highest places in his profession; for many years he held a large share of public confidence; he stood confessedly among the foremost of British surgeons. And yet men less capable than he have been, as the phrase goes, more successful in life; because he had little, if any, of that profitable accomplishment called tact; because he was improvident, and too often strangely indifferent to his own interest. He was not wanting in ambition—nay, perhaps he was too keenly alive to what was said and thought of him—yet usually careless of the chances which fell in his way. It would almost seem that certain weaknesses form an essential part of an amiable character. Some natures, like the opal, owe their very beauty to their imperfections. Men who, by a long course of stern discipline, are enabled so to cancel or conceal all defects and infirmities as to appear almost perfect, are objects of admiration and respect, but seldom of affection or attachment. They appeal to the reason rather than to the heart, and command esteem by virtue of their lives, but never challenge a more generous sentiment. In truth, such men make no appeal to sympathy, and sympathy is the key of the affections. But then comparative absence of faults does not imply the presence of great or noble qualities. On the contrary, largeness of heart creates difficulty of self-control. The will may fail to be supreme, not from lack of its own energy, but from the strength of the emotions. This was assuredly the case with Skey. Open and warm-hearted, generous, trusting, easily moved by impulse, he would act while cooler men would reflect, and too often returned from a brilliant charge to find a

more calculating and cautious opponent in possession of the field. Yet to such as might be called his enemies surely no man ever bore less malice or ill-will. Impetuous, but never resentful, he was in disposition a very Cassius:

> Yokéd with a lamb,
> That carries anger as the flint bears fire;
> Who, much enforcéd, shews a hasty spark,
> And straight is cold again.

And few men have derived more happiness from the ties of friendship. If, naturally unreserved, he was somewhat thoughtless of giving offence, he had a charming power over friends, to whom he was faithfully attached, and in whose praise he was never weary of discoursing. Some of these had the pleasure of being, for many years, his intimate associates. They will henceforth hold him in affectionate remembrance.

HOLMES COOTE.

THE death of no member of our staff has been more affectionately regretted than that of Holmes Coote.

Born in London on the 10th of November 1817, he was the second son of Richard Holmes Coote, one of the conveyancing barristers of the Court of Chancery. He was educated at Westminster School, and on leaving was at once articled to the late Sir William Lawrence, being then only sixteen—an age at which, in those days of apprentices, it was thought well for a youth to set himself to the study of professional subjects. Holmes Coote at once entered upon his work at St. Bartholomew's, and had the advantage of filling the various offices then open to the pupils, and of being appointed as one of the House Surgeons to the Hospital. He then visited the schools of surgery in Paris and in Vienna, and thence returned to resume his work under Lawrence.

Shortly after this, in 1845, he obtained the Triennial Prize given by the College of Surgeons for an essay on the Anatomy of the Fibres of the Human Brain, illustrated by the

Anatomy of the same parts in the Lower Vertebrata; he soon after contributed some further observations on the Anatomy of the Nervous Centres, and somewhat later he wrote on 'the Homologies of the Human Skeleton.' Whilst thus engaged on investigations in Comparative and Human Anatomy, he was selected as one of the Demonstrators in the School of St. Bartholomew's, and he retained this office until he was elected in 1852 an Assistant Surgeon to the Hospital, soon after which a break occurred in his career which will subsequently be referred to. Besides his Hospital appointments he had at this time been one of the Secretaries to the Royal Medico-Chirurgical Society, had been chosen as a corresponding member of the 'Société de Chirurgie' of Paris, and had established himself before the profession as an accurate and erudite clinical worker and reporter.

It is pleasant to think of Holmes Coote at this period of his career, when he was doing good work and giving promise of greater excellence. Endowed with bright intelligence, and gifted with a memory which had been well trained in classic work, and having from an early age shown an inclination for the pursuits which bordered the practical study of his profession, he began as a learner, and commenced his career as a teacher, at a time when there was a great opportunity for gaining distinction by original investigation; for at this time a great movement was being made for the advancement of physiological science, and, by more exact observation and comparison of details, precision and an intelligible order of things was being gained also for scientific anatomy. It was in the last-named field that Mr. Coote's industry was at first conspicuous, and in the treatises referred to above he showed himself lucid in description and proved his aptitude for original research. In writing on the homologies of the skeleton—a subject to which Professor Owen's deductions had recently attracted general attention—he was clear and precise, so that a somewhat difficult matter was handled in a manner to make it readily intelligible to those who had neither time nor opportunity for an exhaustive investigation of the details. And what, indeed, was evident in these his earlier writings was characteristic of him in his teaching, for he excelled not in the careful explanation of small matters, but in the facility

with which in a few bold words he brought out the main points so as to fix them on the memory. His power of terse explanation, and the clear and positive words which spoke it, were the chief reasons for his popularity as a teacher and for his success as a speaker, for in debate he was always to the point, and fluent.

Having travelled much, and being trained to observation of men, and toned by early teaching and by generous instincts, he was as a companion appreciative and most acceptable, and probably no one connected with our Hospital ever established a stronger hold upon those who, first reckoned simply as his pupils, came afterwards to be counted amongst his friends, and who to the last were warm in their attachment to the memory of the days when he took a prominent and active part in the teaching of the school.

His familiar knowledge of French and German stood him in good service at this period of his career by enabling him to compare notes with observations, kindred with his own, which especially in Germany, were now making great advances in the sciences allied to surgery, and especially in the department of pathology; and in fine his industry, the goodness of his work, his frank and manly character, combined with a presence which, without boldness, told of confidence and self-reliance, presaged for him the success which his life to this date had been passed in aiming at.

At this time occurred the break in his career which has already been referred to. The war which had been declared against Russia, and the great cry for help which came to us from the East, warmed many men who were leaders in our profession to offer their services to the Government; and it is thought by his friends that it was not a fortunate moment in his career when Holmes Coote decided to volunteer for the hospital work at Smyrna and at Renkioi. He found there no large field for the exercise of his talents; he was vexed about many little things; and, anxious in himself and unfitted by habit for the life and for the climate, when he returned to England those who knew him best saw that he was an altered man. Altered in such respects as these—that he was no longer the sturdy worker as of old; his brilliancy of execution remained, but he no longer brought to bear upon work the

SAINT BARTHOLOMEW'S HOSPITAL REPORTS.

ARTICLE I.—*Two Years of Hospital Practice.*

By GEORGE W. CALLENDER, F.R.S.

IN this paper I propose to give an account of the cases which have been under treatment in my wards for the two years, ending May 3rd, 1873, during which I have held office as Surgeon to the Hospital.

With reference to the general question of the results of operations and of accidents in Hospital practice, and as a further reply* to the statements made by the late Sir James Y. Simpson, I will first submit the following table, showing the results of the ward practice:—

TABLE I.

	No.	Recovered	Died
Operations of all kinds (except for hernia) .	179	174	5†
Amputations	17	17	—
Compound fractures	22	22	—
Hernia cases (not included with operations) .	16	11	5

* See 'Hospital Reports,' vol. v. page 243.

† The fatal cases were—

1 male æt. 60 after lithotomy.
1 male „ 60 „ removal of a cystic tumour.
1 female „ 36 „ ovariotomy.
1 male „ 42 „ tracheotomy.
1 female „ 20 „ ovariotomy.

And in the next table I give a list of amputations performed by Sir James Paget, or by myself, since the date, July 1869, of the last case reported in a previous communication* :—

TABLE II.

Amputations at the	No.	Recovered	Died
Thigh	13	13	—
Leg	13	13	—
Arm	1	1	—
Forearm	3	3	—
TOTALS	30	30	—

I ask those who may have been led to imagine that patients in a large hospital are placed under circumstances unfavourable to their recovery, as compared with patients in small hospitals, or with patients attended at their own homes, to note that all the cases referred to in Tables I. and II. were treated under ordinary conditions in the old wards of this Hospital, with the exception of the cases of ovariotomy, vesico-vaginal fistula, and of lacerated perineum, which lay in small special wards provided for such patients.

It is quite certain that with the exercise of proper care and supervision, patients do as well in a large hospital as anywhere else.

To give precision to our knowledge of the immediate effects of operations and accidents upon the general condition of patients, I have had recorded the condition of the pulse, temperature and respiration before and after all operations, and in connection with such other cases as seemed suitable. These observations were taken, with some few unavoidable irregularities, for the morning between the hours of ten and eleven A.M., for the evening between the hours of ten and eleven P.M.† The results for the more important, and for other illustrative cases are shown in Table III.; each case being numbered to facilitate reference to the table when the

* See 'Hospital Reports,' vol. v. page 249.

† I am very much indebted to my House Surgeons, Mr. Young, Mr. Ferguson, and Mr. Brewer, for the care with which these notes were taken, or their taking superintended.

details are subsequently related. It may be premised, in explanation, that a + indicates that the patient was asleep, and not to be disturbed, and that the apparent irregularity noticeable in the first column, opposite chiefly the hernia cases and the accidents, is due to the varying time at which each case was brought to the Hospital for treatment.

In this table most of the cases of disease are virtually reckoned with the operations: a few are, however, placed by themselves, chiefly to enable me to give the cases of strangulated hernia, which I no longer class with operations because the fatal issue is in no instance due to the treatment pursued in the Hospital, but is entirely dependent upon the treatment or neglect of the disease before the patient is admitted. This will be evident from the histories of the hernia cases, which will be given in this paper. Thirty-eight cases of injury complete the list. It will be convenient to consider the operations first, and then the injuries.

Operations.

Over-action (re-action).

It is remarkable how little impression is produced by even the most severe operations. On the day of operation (in each instance performed with the aid of ether or of chloroform), the pulse usually rose towards the evening, but in a few cases there was a remarkable fall, owing to the relief which the patient obtained from the removal of some local source of irritation; for instance, in Case 25 the pulse fell from 130 to 96, after an amputation at the thigh for a large sloughing cancer growth from the fibula. The temperature either rose slightly or fell slightly; as a rule, it was not materially affected. When it rose the highest it did so from a previously high temperature, as in the three following examples:—

Excision of knee,	temperature	rose to	103·6	from	101·5
Ovariotomy	,,	,,	102·2	,,	101·2
Ovariotomy	,,	,,	101·2	,,	99

The frequency of respiration increased slightly.

The first day after operation the condition of the pulse was very various, although in most cases it rose slightly in frequency. The temperature became a little higher, usually towards the evening, and the respirations were again a little more frequent.

TABLE III.—*Showing the Variations of Pulse, Temperature, and Respiration, in* 100 *cases, chiefly with reference to the effect of Shock upon the System.*

Day of Injury, Admission, or Operation.				Nature of Injury, or Disease, or Operation.	Sex and Age.	1 Day after			2 Days after			3 Days after			4 Days after			5 Days after			6 Days after			7 Days after			8 Days after			9 Days after			10 Days after			11 Days after			Result.
	P	T	R			P	T	R	P	T	R	P	T	R	P	T	R	P	T	R	P	T	R	P	T	R	P	T	R	P	T	R	P	T	R	P	T	R	
				TUMOURS.																																			
M	112	101·2	26	1. Ovarian, removed	F	76	97·2	20	88	98·8	20	72	98·2	26	80	99·3	28	88	98·7	28	108	100	24	112	101·3	24	104	99·3	28	..	....	..	..	....	..	..	....	..	R.
E	108	102·2	28		24	100	98·8	24	96	99	20	76	98·6	28	70	98·8	24	100	100·2	28	112	102·8	28	104	100·3	28	104	101	24									
M	84	98·2	20	2. Ovarian, removed	F	92	99	20	112	101·8	20	116	100·3	20	136	100·4	20	152	100·8	20	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	D.
E	104	100	24		36	112	101·4	20	112	100·8	24	142	100·4	20	128	102·4	20		2 a.m.																			
M	92	99	26	3. Ovarian, removed	F	108	99·4	36	114	100·6	24	108	100·5	28	96	99·6	24	98	100·4	28	90	98·4	24	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E	120	101·2	33		25	120	102	36	114	101·5	30	108	101·8	28	102	100·5	27		+																			
M	64	98	17	4. Fatty, removed	M	108	99·8	26	84	100·2	20	84	98·9	21	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E	72	98·4	20		28	80	100·4	20	80	99·8	23	84	90	21																								
M	72	97·5	14	5. Fatty, removed	M	72	97·5	14	66	96·4	18	68	97·5	18	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E	56	97·5	14		50	68	97	16	60	97·5	16																											
M	72	98·2	24	6. Fatty, removed	F	66	97·6	24	64	97·6	24	66	97·6	18	60	96·1	24	66	98	20	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E	60	97·6	21		42	..	....	..	..	....	..	..	....	..	66	97	25																					
M	72	98·2	20	7. Fatty, removed	F	72	98·2	20	72	99·1	20	80	97·8	18	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E	69	97·6	21		54																																	
M	76	98·7	18	8. Fatty, removed	M	106	101	20	111	100·3	24	81	97	20	81	98·7	20	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E	72	97·5	18		21	108	101·2	24	108	100	18	90	100·6	21																								
M	76	98·5	20	9. Cystic, removed	M	..	....	..	..	*	..	100	102	22	112	103	24	112	103·4	28	108	102·5	28	104	103	20	104	102·8	32	112	103·8	28	112	104·3	44	112	107·1	56	D.
E	78	98·4	20		60	..	....	..	..	....	..	..	....	..	..	....	..	116	103·4	28	108	103·2	28	104	102·3	32	104	101·8	28	128	103·9	24	116	104·8	24				
M	68	98·6	20	10. Cystic, removed	F	80	99·5	20	80	99·8	22	68	99	22	74	97·8	20	74	97·8	22	72	97·8	19	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E		+			67	78	99·8	24	84	100·2	22	69	98·2	20	80	98·2	22	80	97·3	19																			
M	80	98·6	18	11. Epithelioma, removed	M	80	98·6	16		+		84	99·4	24	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E	76	97·8	19		42		+	14	76	98·4	14																											
M	72	99·2	13	12. Epithelioma, removed	M	80	98·6	18	80	98·6	16	76	98·6	16	84	99·4	24	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E		+			42	76	97·8	19		+			+		80	97·8	20																					
M	97	98·4	20	13. Medullary sarcoma, upper jaw removed	M	101	99·4	26	125	102·4	26	95	99·1	25	92	99·1	27	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E	96	99	24		6	106	100·4	29	126	101·7	30		+																									

| | | |

TABLE III.—*continued.*

Day of Admission, or	Injury, Operation.			Nature of Injury, or Disease, or Operation.	Sex and Age.	1 Day after			2 Days after			3 Days after			4 Days after			5 Days after			6 Days after			7 Days after			8 Days after			9 Days after			10 Days after			11 Days after			Result.
	P	T	R			P	T	R	P	T	R	P	T	R	P	T	R	P	T	R	P	T		P	T	R	P	T	R	P	T	R	P	T	R	P	T	R	
				EXCISION																																			
M	120	101·5	20	30. Of knee . . .	M	148	104·2	20	128	102	20	128	103·5	22	128	103·5	24	124	102·2	20	112	101·2	20	112	99·7	20	124	101	20	112	101·2	20	120	99·4	24	..	....	..	R.
E	140	103·6	20		26	128	103·5	22	120	103·5	20		+			+																						
M	120	99·4	24	31. Of knee . . .	M	126	101·6	42	120	102·6	36	120	102·2	32	110	100·4	28	120	102·4	28	140	101·5	36	120	99·5	64	108	69·1	36	110	100·8	36	98	99	24	..	....	..	R.
E		+			5	132	101·5	36	120	101·8	30	126	100·8	30	108	100·4	27	120	100·2	21	108	100	30	108	99·4	33	108	100	24	108	99	24							
M	106	98·1	26	32. Of knee . . .	M	96	99·8	31	135	102	30	125	101·3	32	120	100·8	33	140	104	38	106	98·5	31	124	102	34	97	96	28	120	101 8	3*	114	100·8	34	105	98·8	32	R.
E	111	99	39		7	132	101	39	120	99·5	35	120	100·8	36	90	99	27	126	101·2	32	..	....	..	..	....	..	138	101·6	39	90	98·4	30							
				AMPUTATION																								*											
M	84	100	16	33. Of forearm . .	M	96	99·2	20	104	99·2	20	100	99·4	18	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	R.
E	90	100	16		57	96	98	16	104	101·2	18	88	98·6	18																									
				INCISION																																			
M	100	99·5	22	34. Of elbow . . .	M	116	102·6	22	114	101·2	24	92	99	22	84	87·8	24	92	98·2	23	92	97·6	23	92	98·6	24	..	....	..	..	....	..	..	....	..	..	....	..	..	R.
E	120	99·4	24		14																																		
M	88	98	20	35. Lithotomy . .	M	88	99·1	20	120	100·3	28	122	99·2	22	122	99·3	22	115	99·1	20	87	99·1	20	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	R.
E	105	100·1	23		21	120	100	21	120	100·1	25		+			+		120	100·3	20																			
M	74	98·5	24	36. Lithotomy . .	M	80	98·8	28	68	97·6	28	62	97·6	22	66	97	22	66	97	22	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	R.
E		+			47	84	97·8	21	60	97	24		+						†																				
M	104	98·7	22	37. Lithotomy . .	M	114	99·8	21	116	99·8	32	96	100·5	24	92	99·8	26	120	102·8	32	84	98·6	24	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	R.
E	120	98·2	24		9	105	99·6	21		+			+		93	98·4	27		+																			
M	96	99·2	24	38. Lithotomy . .	M	128	97·8	28	132	98·4	18	120	98·2	18	115	98·1	20	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	R.
E	100	97·5	26		4		+			+																												
M	132	105·1	rigors	39. Catheter tied in	M	150	105·8	..	96	100·6	26	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	R.
E	132	104·8			31																																		
M	66	98·8	17	40. Operation for	M	104	104	18	90	98·5	18	99	99·4	18	88	98·2	18	100	99·5	18	100	100·2	20	86	99·5	16	96	98·8	16	..	....	..	..	....	..	..	....	..	..	R.
E	102	100·8	18	congenital phimosis	20	104	100·2	18	84	99·9	18	..	....	..	..	....	..	105	100·2	16	104	100·2	20																
M				41. Operation for fistula in ano	M	80	98·2	21	85	98	17	66	97·2	19	66	98·2	18	76	97·4	18	75	98.2	18	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E	76	99·6	20		36	84	98	19	88	96·5	18																												
M				42. Operation for fistula in ano	M	63	98·3	21	66	98·5	20	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E	83	99·2	21		50	66	98·5	21																														
				NECROSED BONE																																			
M				43. Removal of . .	M	..	....	..	..	....	..	100	99·1	24	152	105·6	28	140	104·8	16	132	105·3	32	112	102·8	28	124	103·5	24	112	104	20	116	101·8	24	100	100·4	20	R
E					23										140	104·2	36	108	101·8	24	108	103	28	136	104·6	20	112	102·2	20	112	103·5	20	128	103·5	20				

| | | |

TABLE III.—*continued.*

Day of Injury, Admission, or Operation.				Nature of Injury, or Disease, or Operation.	Sex and Age.	1 Day after			2 Days after			3 Days after			4 Days after			5 Days after			6 Days after			7 Days after			8 Days after			9 Days after			10 Days after			11 Days after			Result.
	P	T	R			P	T	R	P	T	R	P	T	R	P	T	R	P	T	R	P	T	R	P	T	R	P	T	R	P	T	R	P	T	R	P	T	R	
				DISEASES.																																		
M		*		60. Syphilitic	M	156	102·2	30	160	102·4	36	180	104	60	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	D.
E	180	101·4	30	Laryngitis	42	160	101·2	28	160	101·2	28																										
				INJURIES.																																		
M				61. Incised wound of	M	96	99·5	24	120	101·8	26	100	99·8	24	104	99·6	24	94	98·6	22	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E	104	99·5	24	neck	52	100	100	25	100	99	18	100	99·4	28		+																						
M				62. Incised wound of	M	88	98·8	20	100	99·6	20	90	98·3	19	80	98·4	18	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E	84	99·4	20	neck	53	104	100	21		+		82	98·2	17	64	98·2	19																					
M		†		63. Incised wound in-	M	120	101	28	116	102	24	92	102	24	118	99·6	18	124	100·2	20	104	99·1	24	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E				to wrist-joint	7		+			+		132	101·7	24	114	100·3	21	108	100·6	18	104	100·2	29																
M				64. Punctures severe	M	103	97	24	112	98·3	24	95	96·2	21	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E				of hand	15	104	99·2	23	110	99·4	22																												
M				65. Punctured wound	M	92	99·5	27	76	98·2	22	..	....	..	..	....	..	88	98·8	16	64	97·2	16	64	....	..	70	....	..	62	....	..	70	....	..	56	....	..	R.
E	72	98·2	18	of heart	31	64	98	27										64	97·2	14																		
M				66. Punctured wound	M	86	110	30	86	98·6	24	80	99·4	20	80	97	22	96	100	26	100	99·2	27	100	101·6	27	84	99·4	22	..	....	..	..	....	..	..	....	..	R.
E	86	98·4	26	of peritoneum	34																			100	101·6	24											
M	148	103	60	67. Punctured wound	M	120	101·1	42	132	100·1	30	116	100·4	40	116	98·9	32	112	100·6	23	128	98·3	32	120	99·7	36	..	....	..	..	....	..	..	....	..	..	....	..	D.
E	144	99	56	of bladder and rectum	56	104	98·6	35	100	98·2	34	92	99·1	46	120	100·2	32	124	98·4	26	104	98·2	16	132	98·4	42												
M				68. Severe lacerated	M	104	101·8	24	108	105	36	100	102·8	28	98	103·4	36	104	104·2	32	104	103·4	30	96	101·8	28	100	102·2	22	104	132	32	100	100·4	34	22	99	26	R.
E	76	97·4	20	wound of leg	38	108	103	24	104	104 8	36	100	103	36	100	1042	34	108	104·5	28	104	103·8	32	100	102·8	32	112	103·5	36	100	101	34						
M				69. Severe lacerated	M	96	103·2	30	84	102·4	24	84	102·2	24	76	100·4	24	..	....	..	..	....	..	..	....	..	..	....	..	92	98·2	20	104	98·6	28	120	98·8	33	D.
E	76	102	24	wound of leg	74	96	102	50	64	100·4	22	80	100	26																14th day			15th day			16th day		
M				70. Severe lacerated	M	100	102·6	24	100	100·8	24	100	98·8	18	96	97	19	84	96·6	18	..	....	..	..	....	..	76	97·2	22	..	....	..	..	....	..	..	....	..	R.
E	88	98·6	24	wound of thigh	68																																
M	75	98	21	71. Lacerated wound	M	75	99·3	21	80	99·1	18	75	98·2	18	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E		+		of leg	30	96	98·5	21																														
M				72. Lacerated wound	M	84	100·6	20	80	99·9	22	80	100	20	86	99·4	18	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E	64	99·5	20	of hand	14		+		82	99·5	20	80	99·7	20																							
M				73. Lacerated wound	M	92	100·3	20	84	99	20	92	101·3	20	72	99	24	72	98·4	24	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E	62	98·4	18	of hand	14	92	101	20	75	97·8	22	72	98·7	24	60	98·5	19	58	97·1	16																		
M	88	100·4	20	74. Lacerated wound	F	104	101·5	24	104	99·8	28	104	98·6	24	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E		+		of scalp, severe	53	90	100 4	24	90	100·2	21																												

| | | |

TABLE III.—*continued.*

Day of Injury, Admission, or Operation.	P	T	R	Nature of Injury, or Disease, or Operation.	Sex and Age.	1 Day after P	T	R	2 Days after P	T	R	3 Days after P	T	R	4 Days after P	T	R	5 Days after P	T	R	6 Days after P	T	R	7 Days after P	T	R	8 Days after P	T	R	9 Days after P	T	R	10 Days after P	T	R	11 Days after P	T	R	Result.
M			16	90. Compound fracture of tibia and fibula	M	56	99	16	64	99	16	96	99	16	96	99·7	20	84	99·4	20	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E	56	99·1			34	60	99·2	16		+		96	99·6	20	100	99·8	18	86	99·2	18																	
M			24	91. Compound fracture of tibia and fibula	M	80	97·5	22	80	99·6	21	76	99·5	22	78	98·8	20	80	98	24	80	99	23	80	98·6	22	..	....	..	..	....	..	..	....	..	..	....	..	R.
E	84	97			44	72	100·3	18	76	100·1	22	78	100·3	21	78	100·2	24	80	100	24	74	100·4	24	88	100·9	20	74	99	16	78	99·2	16	*					
M		†	19	92. Compound fracture of femur	M	104	100	22	106	104	22	98	100·1	20	96	100·1	20	92	98·2	18	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E	76	98·3			54	100	100	23	100	100	20		+			+		88	98·2	18																	
M			21	93. Compound fracture of humerus into the elbow-joint	M	80	98·2	22	84	101	19	80	98	20	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	R.
E	80	98·2 ‡			36	72	100·1	20		+		78	98·4	21																							
M			18	94. Compound fracture of patella into knee-joint	M	76	99·8	16	74	101·2	28	88	102·4	24	70	100·2	22	76	100	21	80	100	20	76	99·4	18	74	98·8	18	72	99	15	..	....	..	..	....	..	R.
E	76	99·6			45	80	100·8	21	84	102·8	24	86	101·6	20	78	100·2	24	86	100·4	21	82	99·8	22	72	99·8	22	62	99·6	22								
M				95. Fracture of frontal bone	M	70	100	25	70	99·8	24	56	98·8	24	72	98·8	24	100	103·2	28	54	100	25	62	99·5	24	110	100	24	54	98·4	24	25	99	24	..	....	..	R.
E					13																																
M				96. Fracture at base of skull	M	..	+	..	56	98·5	12	56	98·4	12	56	98·2	16	56	98	16	63	99	21	..	....	..	..	....	..	..	....	..	..	....	..	..	....	..	D.
E	56	98·4	12		45	56	98·8	12	60	98·2	14	56	98·4	12	54	98	18	..	....	..	100	101·1 §	36													
M				97. Fracture at base of skull	F	102	99·6	27	101	99·4	24	98	100	41	68	98·4	38	64	99·3	29	62	98·2	24	65	98·3	20	75	98·1	20	..	....	..	..	....	..	82	98·6	24	R.
E	100	99·4	24		16	100	99·4	24	90	100·2	24	62	99	36		+								60	98·1	25										
M				98. Fracture at base of skull	M	44	99	15	52	99·2	18	64	98	19	64	98·4	18	76	101	20	64	98	18	62	100·6	20	64	100·2	22	58	98·2	17	..	....	..	84	98·2	22	R.
E	51	99·6	15		29	45	98·6	15	54	99	18	66	98	12	78	101·2	24	66	97·6	21	60	99·6	18	62	98·2	12	57	99·4	18	76	100·2	24					
M				99. Division of Tendo Achillis	F	88	98·2	18	88	98·5	20	140	102·1	24	129	102·1	25	132	105	22	140	100·2	24	132	103·5	28	116	100·4	24	126	102·6	24	106	102·4	24	126	100·8	24	R.
E					1·15								‖					130	102·2 ‖	22							132	103·8 ‖	24								
M		†		100. Removal of upper jaws for adenoid growth	F	100	100·9	18	100	101·2	21	98	108	33	84	101·7	22	92	101·8	22	88	103·3	44	112	103·9	28	112	105	23	103	100·2	21	..	....	..	..	....	..	R.
E	84	9·1 †	24		56	108	100·8	21	104	102·8	21	98	97·7	28		+		98	102·1 ‖	36																

* Sloughing of bruised tissues.
† Extensive laceration of soft parts.
‡ Gun-shot wound.
§ Temperature at noon.

Preceding outbreaks of erysipilas.

The second day after operation the pulse rose; the temperature also rose, the highest rise being to 104 from 100, but on this day the respirations fell.

Pulse, temperature, and respiration became natural after operations on the following days:—

1	2	3	4	5	6	7	8	9	10	11
3	5	4	6	6	6	4	2	1	2	3

Number of Cases.

Sub-action.

If it is permissible to speak of a stage of over-action after an operation, it is equally so to speak of some cases, on the other hand, as passing to convalescence through what may be termed a stage of sub-action. In these the pulse and temperature remain below the natural standard for about the same time as is usually occupied by the stage of over-action, and then rise to the normal condition. Several illustrative cases* will be found in the table; such, for instance, as that of a male, æt. 47, who recovering after lithotomy had a pulse which was never above 84, and which fell to 60, and a temperature once at 98·8, and at other times about 97. (No. 36.)

In two cases (lithotomy, No. 38; hernia, No. 50), a rapid pulse and a low temperature went together.

Shock.

Taking all the cases of operation which have been under my care, I never saw anything like a condition of shock which could be measured by any register of pulse, of temperature, and of respiration, and I say the same respecting the next series of cases, injuries; for, except in patients admitted moribund, we never found anything in pulse, or temperature, or respiration, which could collectively be said to indicate shock, so that, whatever is meant by the expression, the condition was so transient that it usually passed off before the cases came under our notice, so far as to leave no trace in the three great signs recorded in Table III.

After writing this paragraph I took the opportunity given by my next admission week of taking notes immediately after their being brought to the Hospital of three patients suffering

* Cases numbered 5, 6, 14, 22, 36, 41, 42, 48.

from severe injuries, and in each instance having the outward signs of well marked shock; and I confess to have been surprised at obtaining the following results:—

Case 1.—A male, æt. 32, had a dislocation at the shoulder, and a wound of the right lung, with severe hæmoptysis, the injuries having been caused by his falling from a scaffold, a large stone he was at the time carrying falling on to his chest. His pulse was 84; temp. 98·6; resp. 24. The patient had the appearance of suffering greatly from the shock.

Case 2.—A robust young man, æt. 28, had his arm entangled in machinery, and so severely lacerated that I was obliged to amputate above the elbow. At the time of his admission, immediately after the accident, his pulse was 76; temp. 98·7; resp. 24.

Case 3.—A male, æt. 21, was admitted with concussion, having fallen from a great height, his fall being, however, broken at various points. He was pale, and vomited frequently, and altogether would have been pointed to as he came out from the concussion as a typical case of shock. His pulse was 72; temp. 98·1, and resp. 26.

I could easily add to these illustrative cases; but I will refer to one other only, a case which shows that there is in some instances a considerable influence upon the temperature resulting from mere fright or worry, independent of any hurt to or injury of the body. A boy, æt. 9, had been cut for stone, and on the fourth evening after the operation, having thus far progressed without an unfavourable symptom, he had a pulse of 93; temp. 98·4, and resp. 24. The next day I found that the pulse had risen to 120, and that the temperature marked 102·8; resp. 32. There was nothing in his condition which could explain this change, but in the course of the afternoon it came to my knowledge that he had been frightened during the night by the nurse in charge (who was at once dismissed), and the pulse and temp. being 84 and 98·6 the following morning proved that the mere mental disquiet had caused the sudden rise, which we could not otherwise account for. (Case 37, Table III.)

Injuries.

Over-action.

On the day of, and immediately after the accident, the pulse was unaffected in 17 cases, rose in 3, only twice to 100, and fell in 7, including—

1 case of compound fracture of the leg,
2 cases of fracture at the base of the skull,
2 cases of laceration of the hand,
2 cases of crushed chest.

The temperature varied very little, either rising slightly, in 4 only being over 100, or falling slightly, in one case of compound fracture dropping to 97 with a pulse of 84.

The respirations were not affected.

The first day after, the pulse was not much affected, although in 8 cases it rose very slightly. The temperature did not show any material change. It rose, for the most part slightly, in 20 cases, and in these the highest temperature was attained in the morning in 12 cases, in the evening in 8. It fell in 3, and was not affected in the remaining cases.

There was no material change in the number of respirations; they rose in 6:

in 1 case of injury to the peritoneum,
„ 1 „ fracture of the patella,
„ 1 „ wound of the neck
(18 to 27, pulse 72 to $\frac{92 \text{ M.}}{64 \text{ E.}}$, temp. 98·2 to $\frac{99{\cdot}5 \text{ M.}}{98 \text{ E.}}$),
in 2 cases of lacerated wound of leg,
„ 1 case „ „ „ scalp.

The second day the pulse rose in 6 cases, fell in 15, was unchanged in 15 by comparison with the first day.

The temperature rose in 10 cases (pulse rising in 3, falling in 2, stationary in 5). Fell in 19 (pulse rising in 1, falling in 13, stationary in 5). Stationary in 7 (pulse rising in 2, stationary in 5).

The respirations remained as before in most cases. Rose in 2 (with increase of temperature and stationary pulse in 1—laceration of leg; with slightly increased rapidity of pulse and great fall of temperature in 1—fatal crush of abdomen); fell in 4, all being cases in which they had risen on the previous day.

Pulse, temperature, and respiration, became natural after injuries on the following days, exclusive of secondary changes.

1	2	3	4	5	6	7	8	9	10	11
2	7	9	3	3	5	1	—	—	2	1

Number of Cases.

Sub-action.

I never saw a case of recovery from an injury with sub-action.

Respiration.

When the natural condition was arrived at, the following was the average frequency of respirations per minute, the patient being recumbent in all cases. The figures seem to give a somewhat higher average than we are taught to anticipate:—

Respirations	per	minute	22	in	59	cases.
„	„	„	18	„	12	„
„	„	„	27	„	9	„
„	„	„	16	„	7	„

Secondary Changes.

I had no experience of pyæmia, except in Case 9, Table III., the only instance of this complication which has occurred in my wards during the two years. With two occasional interruptions to the favourable progress of the cases (1. cellular inflammation, and 2. simple erysipelas) the rise in pulse and temperature was uniformly considerable, and the two cases placed last in the table (Cases 99, 100) give what may be termed the characteristic signs. By keeping, indeed, a close watch upon the pulse, and more especially upon the temperature, which invariably rose rapidly before local symptoms appeared, we could always detect the very onset of either one of these affections, and practically gained 24 hours in the treatment of the complication.

Importance of Details.

I said that with the exercise of proper care and supervision Hospital cases give very good results. It is to this more than to any plan of treatment that the well-doing of a patient is due, for he ought to receive, from the surgeon to the nurse, the same attention which home treatment usually guarantees.

No patient should be operated on, save in certain urgent cases, unless his history and his general condition have been scrupulously enquired into. I know this is a rule commonly laid down; I wish to insist upon the necessity of its being practically observed, especially before comparatively minor operations are undertaken, for it is in such cases an omission is most apt to occur.

No symptom, trifling as it may seem at the time, should be ignored. For instance, a child was brought into the theatre, by previous arrangement, for an operation; all the usual precautions having been taken. As chloroform was being given the child seemed flushed, and, on looking at the tongue, it had become furred since the morning. She was at once sent back to the ward, and in the course of a few days she had developed an attack of scarlet fever.

In many cases the patient may be prepared beforehand for certain conditions which have to be submitted to after an operation; and this is so important a detail, and as a rule so little attended to, that one or two illustrations may be in place. Before operating for hare-lip the child should have the fissure drawn together for a few days by means of adhesive plaister; it thus becomes accustomed to the restraint, and will fret less over the dressings when applied after the operation. After many amputations it is convenient to swing the limb (arm or leg), and the patient should previously have been accustomed to the arrangement, and the same rule applies for cases of excision of the knee or elbow joints. If any position has to be enforced, the patient should be drilled to it beforehand, so that it may not come upon him unawares as a discomfort, added to those inseparable from an operation. Before a vesico-vaginal fistula or a torn perineum is repaired, the nurse should be instructed to draw off the water some two or three times, to accustom the patient to the necessary manœuvre. All apparatus and bandages should be arranged so that no disturbance of a wound, as after an amputation, should be involved in their removal.

Details such as these—and it would be easy to add to the list—may seem but small matters, but I am convinced that the well-doing of a patient depends very largely upon a rigid attention to such apparent trifles.

Isolation and Dressing of Wounds.

Torsion.—As it is most desirable that every wound should be free from foreign bodies, it is well to avoid the use of ligatures of all kinds: a further advantage gained by their disuse being that all risk of secondary hæmorrhage is removed, and the patient is spared anxiety respecting, and possible pain from, their withdrawal. I have used torsion in all operations, save two, with the best results. In one case only, an amputation at the upper third of the leg, was there slight recurrent

bleeding within six hours of the operation, and this from a vessel which had not been twisted. In the two cases in which it could not be employed, the artery (in each instance the femoral) was divided at a point at which it gave off several branches, and there was not sufficient length of vessel free from these branches to admit of torsion.

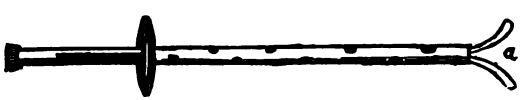
Dressing.—An operation wound should not be closed until all bleeding has ceased. It may then be washed with tepid carbolic acid lotion (1 part to 20 of water), or with a solution of chloride of zinc (1 in 30 or 40), and the edges should be brought together, if at all, with silver sutures, either interrupted or continuous. Care should be taken to avoid bruising the tissues, and all handling should be managed with the hand to the exclusion of forceps. The wound is then covered with lint soaked in carbolized oil (1 part in 5), and over this should be placed a thick layer of cotton wool. No pressure should be made upon the flaps of an amputation wound, or after removal of a tumour, as of the breast; and provision should be made for the escape of the fluid which exudes from the wound surfaces during the twenty-four hours which follow the operation. Retention of this fluid within the wound is always followed by unfavourable results, and often by serious complications.*

After this the parts should be left at rest; and if the dressing has been thoughtfully applied, the oiled lint can be removed and renewed after the first twenty-four hours, and after, without disturbance of the parts. I never leave a wound longer than forty-eight hours, and generally look at it twenty-four hours after the operation, to satisfy myself that there is a free discharge for the fluid which should drain from it.

If the wound is accidental, and is lacerated, and cannot from loss of tissue be closed, or if, as sometimes happens, an operation wound fails to unite by primary adhesion, the carbolic-oil lint dressing is used or continued, and should be

* The drainage tube I now employ is perforated at numerous points, and is furnished with a light spring (*a*) which can be protruded from the end which lies in

FIG. 1.



the wound so as to prevent the tube from falling out. Silver tubes are preferred as convenient for introduction and least irritating. The metal spring is galvanised.

renewed daily, being laid lightly over the surface and covered with cotton wool: a plan of wound-dressing which has been much employed, with the exception of the cotton wool, since the introduction of the carbolic acid into use in our wards in the year 1862.

Isolation.—For all wounds with purulent discharge, and for all cleansing purposes, camel-hair brushes are employed in my wards, as described in the current volume of the 'Transactions of the Clinical Society.' For carrying out this treatment each patient is provided with a twisted wire which hangs against the wall and carries an ordinary glass test-tube, in which the brush is kept when not in use, in a solution of one part of carbolic acid in four of rectified spirit. By this means we make quite sure of isolating the wound so far as its cleansing is concerned; and the use of the brush has this further advantage, that it expedites the removal of discharge, is very acceptable to the patient as a painless application, and ensures gentle handling on the part of the operator. In some instances, as after ovarian operations, a new brush is used for each dressing of the wound, but practically the same brush, if kept in the solution referred to, may be repeatedly employed. Besides its use in lessening the risks of spreading infection, this plan of cleansing wounds commends itself as assisting in ensuring that rest and quiet which are essential to the repair of all wounds; and I do not think that anyone who has experienced its handiness would think of using any other means for removing discharge, especially where it has to be cleared from fissures and recesses not easily reached by other methods.

An amputation at the thigh, which has been lately under treatment, may be referred to as showing how a large wound is dressed in the way I consider most likely to ensure the recovery of the patient; and as this amputation was the twentieth in succession which recovered, it may be allowed that the plan of treatment has had in practice satisfactory results.

In this instance the femur was divided just below its middle. Anterior and posterior flaps, the first named being the longer, were made from the skin and subcutaneous tissue only, the anterior flap falling over and covering the end of the bone. The muscles were divided with one sweep of the knife, so as to ensure one clean cut through all the tissues between the flaps and the periosteum. The arteries which bled were then twisted, all bleeding points being treated; and whilst these operations were being effected the wound became dry, or

nearly so. The surfaces of the wound were then washed with tepid carbolic acid lotion (1 in 20 of water), and the edges of the flaps were drawn together with interrupted silver wire sutures, arranged so as to leave an opening for a drainage tube on the outer side of the stump, this side being selected because after all these amputations the tendency of the patient is to roll the thigh outwards, and this makes the outer angle of the wound the more dependent one. Whilst introducing the sutures the edges of the flaps are held by the hand, for at no time during the operation should the parts be bruised, or run the risk of being bruised, by the employment of forceps.

The thigh being carefully cleaned, is then laid upon a short splint, well padded, and covered with gutta percha tissue. As it rests on this the end is lightly covered with lint, soaked in carbolized oil (1 in 5), care being taken not to turn any portion of the lint under the stump, or it will be difficult to remove it when necessary without disturbing the wound. Over this a second piece of lint, thrice folded and again well oiled, is laid, and then a few turns of an ordinary bandage secure, without material pressure, the thigh to the splint, and over this a thick layer of cotton wool is wrapped, covering the top and sides of the stump, and over this again some turns of a bandage secure the whole. The patient is then carefully moved, a dresser attending to the stump to see that it is steadily handled in laying the patient on his bed. A small pillow is placed under the dressings, so as to raise the limb whilst allowing it to be somewhat abducted, the position being determined solely by the inclination of the patient, and a flannel bandage is then passed across the bed, beneath the opposite thigh and over the stump, so as to assist in steadying the amputated extremity, which, after some trial of the plan, I consider it desirable to swing—an arrangement always used for amputations of the leg and arm.

If these directions are accurately followed it will be found that the dressings can be removed when necessary, without disturbance of the stump. First, the turns of the outer bandage being carefully cut through, the ends are turned aside, and left for re-use, as a sort of many-tailed bandage. The cotton wool is then lifted off, and will be found to have taken up the discharge escaping from the wound. The inner layer of bandage is then cut along the middle line in front, and the ends are turned aside as for the first layer. Lastly, the oiled lint is raised from the wound, which is freely exposed to the ordinary atmosphere, and from which discharge, if any, is removed with a camel-hair brush. The dressings are then renewed

as before, with the exception of the bandage, the two layers of which are again employed, the ends from either side being united by a broad strip of adhesive plaister. After three or four days the splint is removed, the repair having usually progressed sufficiently by this time to enable us to dispense with its use, the lint, cotton-wool, and bandages giving in themselves sufficient support during the rest of the treatment.

The most rapid recovery I have seen, after amputation at the thigh, was in the case of a child, 5 years of age, who was up and dressed fourteen days after the operation.

Antiseptic Treatment.

From what has been said respecting the dressing of wounds, it will be seen that in a limited way antiseptic treatment has been used very generally. Cleansing an accident wound or washing an operation cut with carbolic acid lotion, or with chloride of zinc solution, covering the parts with carbolized oil on lint, and sometimes covering an open sore with Balsam of Peru, has been the rule of treatment; whilst over all immediate dressings a thick covering of cotton wool has served the purpose of protection and of warmth-giving, and perhaps has been a help in preventing contamination. But with these measures my use of an antiseptic treatment ends; and I have the strongest belief that success in the further management of operation and other wounds is ensured by extreme care and gentleness in the manipulation of the parts, by strict maintenance of rest, and by giving free exit to all serous discharge or matter.

Thus, whilst recognising the good results claimed for the strict antiseptic treatment, I hold that results quite as favourable can be gained by a plan of wound-dressing which is so far more convenient than that treatment, in that it is more simple—one for the carrying out of which the means are always at hand, and available for any emergency.

Feeding Ulcers.

Dr. P. Cohen having reported several cases in which the healing of ulcers seemed to have been advanced by dressing them with a nutrient mixture, and two cases being under observation in Darker Ward in which the treatment could be tested, I had the ulcers dressed three times daily with a mixture composed of port wine, yolk of egg, and a small quantity of prepared chalk. The result showed that the ulcers healed, but not more quickly than under ordinary treatment. The cases were the following:—

1. J. D., æt. 57, had suffered from an ulcer on the right leg for four years, on the left for five weeks, but the general condition of the surrounding textures from long-standing varicose disease of the veins was much the same on either side. The left ulcer was rather the larger of the two. This was treated with food dressing, that on the right side with carbolized oil, and later with water dressing. The right side ulcer healed first, and the food dressing for the left side ulcer was discontinued, as it did not seem to be of any service. The sores were two weeks in closing.

2. W. M., æt. 56, had an ossifying spindle-celled sarcoma, removed from the cellular tissue of the thigh, leaving a wound six inches by four. It was seven weeks in healing. The same patient was re-admitted with recurrence of the disease, which was again removed, leaving a wound of precisely the same character and size as the previous one. As soon as it began to granulate, it was placed on the special plan of treatment by nutrient dressing. Healing took place very steadily, occupying seven weeks and a half—a few days longer than on the previous occasion. (Cases 15, 16, Table III.)

Rate of Wound Repair.

Several wounds have been carefully measured from week to week for the purpose of registering the rate at which repair progresses. From our observations it may be concluded that half an inch per week is the average rate of progress; that wounds heal most rapidly in a line corresponding with the long axis of the body; that a transverse wound of an extremity is slowly repaired by comparison with one made longitudinally; that the repair of a wound is much more rapid when grafting is employed.

Sloughing of Skin from Phlegmonous Erysipelas. Grafting.—W. J. was admitted with erysipelas, which had caused extensive sloughing of the integument of the left leg. He was forty-one years of age, a stevedore by occupation, and had wounded and poisoned his leg fourteen days previously by falling over some logwood at the docks. On October 1, the wound being covered with healthy granulations, five minute grafts were applied to the upper portion of the ulcer near to its margins. In two days the grafts were from 2 to 3·5 tenths of an inch in diameter; four days later the ulcer about the grafts had healed, the portion measuring 1·5 inch by 1 inch—a rate of progress at least four times greater than could have been looked for under ordinary treatment. (Case 76, Table III.)

Another illustration of the rate at which wounds repair is the following. G. H., æt. 39, had a large carbuncle in a somewhat unusual situation—viz. over the front of the upper part of the tibia. He had also cardiac disease. When the ulcerated surface fairly began to heal, the following measurements were taken:—

	Length and (1) Breadth (2) of Wound.		
First week ...	2·7 inches	2·5 inches	2·1 inches
Second „ ...	2·7 „	2·5 „	2·1 „
Third „ ...	2·2 „	2·1 „	1·7 inch
Fourth „ ...	1·3 inch	1·8 inch	·8 „

Transverse wound of Thigh. Slow Repair.—H. H., æt. 67, a healthy labourer, fell from a ladder, striking the right thigh, and sustained a severe lacerated wound, seven inches in length, extending across the limb about five inches below Poupart's ligament. At the centre of the wound the fibres of the sartorius were exposed. Although by position the edges of the wound came accurately together, this patient lay three months in Harley Ward before repair was completed. (Case 70, Table III.)

Lacerated wound of Hand. Healing in direction of Long Axis.—J. H., æt. 14, caught his hand in a machine for glazing paper. The integument of the palm of the right hand was torn up from the wrist to the fingers. In sixteen days nearly the whole of the skin of the palm had sloughed away, leaving a healthy granulating surface reaching nearly to the bases of the fingers. Taking advantage of our knowledge of the tendency of wounds to close in from side to side, Mr. Lupton was at great pains to force by adjusted pressure the progress of repair in this direction, at the same time keeping the fingers and hand carefully extended, to prevent contraction from transverse healing. One month later the wound had closed. The palm of the hand was somewhat narrowed, but the movements at the wrist and of the fingers were good, and promised to be completely regained, and there was no contraction in flexion of the fingers upon the palm. (Case 72, Table III.) Other cases might be referred to which also show the importance of bearing in mind this tendency of wounds to repair most rapidly in the direction of the long axis of the body, a tendency which has to be favoured or combated according to circumstances in particular cases.

Wounds of Nerves.

Of Radial.—J. I., æt. 7, caught his right hand in a chaff-cutting machine. The incised wound extended into the wrist-

joint, which was freely opened, dividing the extensor tendons of the thumb, the extensors of the radial side of the carpus, the radial nerve, and some branches of the radial artery, from which came recurrent bleeding, rendering it necessary to explore the wound and to tie their ends. The forearm was swung in a vertical position with counter-weight balance, and the wound was dressed with carbolized oil on lint covered with cotton wool. (Case 63, Table III.) The child made a good recovery so far as the joint was concerned. Sensation was regained in all parts of the hand to which radial branches are usually traced, except over a limited area on the dorsal aspect of the metacarpal bones of thumb and index finger.

Of Ulnar.—J. S., æt. 27, cut his wrist with glass, dividing the ulnar artery and nerve, and the flexor carpi ulnaris tendon. There was loss of sensation in the parts supplied by the ulnar nerve below the wrist, but some carpal branches given off on the proximal side of the injury retained sensation for a considerable area on the corresponding side of the back of the hand. The wound healed, and three months after the injury sensation was completely restored, except immediately over the dorsal surface of the fifth metacarpal bone. All the muscles supplied by the ulnar in the hand were useless and atrophied.

Mr. Holden is so good as to allow me to give the history of the following case:—

Of Median and Ulnar Nerves.—E. A., æt. 17, fell, her arm passing through a window, and sustained a severe wound of the right forearm about its middle on its flexor aspect. The ulnar artery was tied for recurrent bleeding. Six months later Mr. Butlin entered the following note as to the condition of the parts below the wound supplied by the nerves above mentioned. 'Sensation completely deficient from about an inch below the scar, down the forearm, palm of the hand, and fingers to their tips. Sensation complete in thumb. Sensation also complete along the back of the thumb, the first interosseous space, and both sides of the forefinger, but deficient elsewhere over the back of the hand and along the other fingers. Motion: Can flex the fingers and thumb very fairly, the latter apparently by the long flexor only. Cannot adduct the thumb at all, and cannot completely close the hand. Muscles of the ball of the thumb and of the ball of the little finger atrophied, as also were the interossei and the lumbricales. Electro-muscular contractility completely lost in all these. Hand warm to the touch, as the other hand. Fingers slightly flexed, owing to the contraction of the scar.

Of Ulnar Nerve.—D. D., æt. 46, died in Harley Ward in consequence of a fracture of the spine with injury to the cord. He had a scar on the left forearm, about four inches above the wrist, left by a wound received about fourteen years ago. It appeared to have involved the ulnar artery and nerve.

Condition of the Hand.—Sensation complete. Little finger and ring finger flexed, the little finger completely, so that its end touches the palm. The skin over it is tense and glazed. There is no pain in it. The only extension power is a very slight one at the metacarpo-phalangeal joint. Ring finger flexed in the same manner, but not to the same degree. Muscles of the ball of the little finger greatly atrophied and contracted. Interossei atrophied, including the abductor indicis, also the adductor pollicis and the inner portion of the flexor brevis.

The following is Mr. Butlin's account of the post-mortem examination of the nerve, and of adjacent structures:—'The nerve and artery had been completely divided by the injury. In the portion of the nerve above the scar, and at the distance of about three-quarters of an inch from it, was a large bulbous swelling. Below this swelling the nerve became adherent to the tendon of the flexor carpi ulnaris, and chiefly to its palmar aspect. The lower end of the nerve was adherent to the same tendon, but to its dorsal aspect, and there was a considerable interval between the two ends. The lower portion of the nerve was considerably smaller than the upper. It appeared from the dissection and subsequent examination that there was no direct union of the two ends of the divided nerve by anything like nerve tissue.'

Whilst this and other cases of division of a nerve trunk show how little likelihood there is of a restoration of motor control over the muscles severed from the nerve centres, they also show, on the other hand, the remarkable extent to which sensation is regained. So far as my own observation extends, it is doubtful if this result is due to any actual repair and reunion of nerve tissue. It has never been known to occur after the well-ascertained division of a great trunk supplying by itself any absolutely distinct area—such, for instance, as the great ischiatic—after cutting across which (two instances of which have come under my notice) sensation is invariably lost below the knee, except about the integument to which filaments of the long saphenous and lesser ischiatic are traced.

On the other hand, the cases related by Paget, Tillaux, Laugier, and others, in which sensation has been regained, are without exception instances of division of one or more of the nerves of the arm or forearm—one or more of the nerves of the extremity being left uninjured; and I agree with a remark quoted by Mitchell from Tillaux that the apparent restoration of the sense of touch is probably due to the perception by nerves which feed adjoining tracts of skin. All the cases which have come under my notice point to this as the explanation of the recovery of the sense of touch; in most of them the centre of the area to which the divided nerve is anatomically referred remained anæsthetic, whilst the peripheral area to which other adjacent nerves approximate gradually recovered sensation (not always perfect); the recovery taking place from the margins of the district as though from increased range of sensitiveness in neighbouring nerve filaments. Now the case last related seems to prove that some such change must have taken place in that instance, for whilst sensation was everywhere complete, the preparation of the nerve shows conclusively that there is no possible communication by means of nerve tissue between the divided ends, which are separated by a great interval and are joined only by being separately adherent to an adjacent tendon. (The specimen is in the Museum of the Hospital.)

Of Anterior Tibial.—R. R., æt. 37, fell through a skylight, his right leg being severely lacerated by the glass. He was admitted half-an-hour later, having lost a great deal of blood. Mr. Young tied the anterior tibial artery, which, with its veins and nerve, had been cut across above the middle third of the leg. He was discharged with loss of sensation of the portion of the foot supplied by the nerve, and with paralysis of the extensor muscles. He was re-admitted, six months later, to be fitted with a boot, not having obtained benefit from intermediate treatment, including the use of electricity. In this case, the muscular branches from the nerve must have been given off much lower in the leg than usual. The muscles wasted simply, and deformity was caused by the unbalanced action of the leg muscles supplied by other nerves.

Of the External Popliteal.—J. C., æt. 19, was struck by the guard of an engine on the Chatham and Dover line, and sustained very extensive and lacerated wounds of the leg, on the outer side chiefly, but also on the inner, a compound fracture of the fibula at its head, with division of the anterior

tibial artery, and crushing of the external popliteal nerve. He recovered after a tedious convalescence, during which he suffered from burning pain in the parts of the integument supplied by the damaged nerve, the skin being tense, glazed, and often covered with patches of eczema. The pain was relieved by the electric current; and eventually, by its help, the nutrition of these parts became fairly good, but suffered when the remedy was discontinued. Sensation was permanently lost, and the muscles supplied by the nerve were paralyzed, the deformity caused by the action of the muscles being partially remedied by apparatus. In this instance, a considerable portion of the nerve was crushed and spoilt at the time of the accident.

Of the Popliteal. Tetanus.—J. L., æt. 4, was run over by a cart, the wheel passing over the back of the left leg. There was a lacerated wound about six inches in length on the inner side of the left popliteal space; it extended deeply to the muscles and tendons, exposing the inner hamstrings and the inner head of the gastrocnemius.

Chloroform was given, and the wound was then washed with carbolic acid lotion, and dressed with carbolized oil on lint. Nine days later, as the leg was contracting on the thigh, a stirrup and 2lb. weight were applied to the leg.

Two days later, it was observed that the leg and foot were extended with clonic spasm of the muscles, the tension being increased on moving the foot. The child was restless, starting in his sleep, but the wound was covered with healthy granulations. The day after, the masseter muscles were rigid, and he was unable to take solid food. The muscles of the neck and abdomen were also rigid, and at times he cried out as if in pain, and then the body was stiffened and the back was arched. He was ordered a warm bath, and was now taking six-grain doses of bromide of potassium every three hours, and the bowels were freely acted upon by purgative medicine. During the next twenty-four hours he seemed to be in less pain, and played with his toys; but at the end of this time he had a severe attack of pain, became intensely rigid, and immediately after died.

The following are Mr. Butlin's notes of the post-mortem examination with reference to the wound:—'The popliteal nerve lay beneath the skin the whole of its length by the side of the wound, but where it lay nearest to the wound about one inch to one inch and a half below the origin of the peroneal nerve, it was much congested, and at one point was

surrounded by apparently newly formed but very fine scar-tissue, by which, it was, to a marked degree, subjected to pressure; the nerve did not appear to have been injured at the time of the accident, but to have just escaped; and as the textures closely surrounding it, which had been damaged, healed, and contraction took place, considerable pressure upon the nerve was produced.'

It is my impression that the nerve had not altogether escaped bruising at the time of the accident; and, looking to the correspondence of the oncoming of the symptoms of tetanus with the use of the extension weight, it is probable that harm resulted from stretching the nerve at the time at which it was accommodating itself to the new conditions caused by the contracting around it of scar-tissue.

Neuralgic Scar after Gun-shot Wound.—L. G., æt. 65. Eight months ago this man suffered from a pistol-shot wound of the left hand, causing severe laceration of the soft parts. From this there resulted an extensive scar, occupying the palmar surface between the metacarpal bones of the index finger and thumb. On examining this scar, the two nerves, from the median to the thumb, could be readily traced into it. These cords were very painful when handled or in any way pressed, and at all times the patient complained of severe neuralgia—which, beginning at the scar, travelled along the course of the median trunk and of its branches. It was my intention to have removed the two nerves which were entangled in the scar, but the patient had been somewhat exhausted by his journey to London, and the operation was postponed for a while. Thirteen days after his admission he died suddenly, in the night time, from failure of the heart, which was in an advanced state of fatty degeneration.

Neuralgic Scar after Amputation.—E. R., æt. 30, had his leg amputated in its upper third. In the contraction of the scar-tissue the external cutaneous nerve became entangled, and, in the course of a few weeks, became hard and extremely sensitive for an inch or more above the extremity of the stump: the cord-like portion being the seat, when touched, of intense pain. The removal of the indurated portion of the nerve was followed by permanent relief.

Punctured Wounds.

Punctured wounds of the Back of the Hand.—This was a curious injury, for the boy's (æt. 16) right hand had been caught in a shoddy machine. This consists of a revolving drum,

which is armed at regular intervals with spikes an inch and a half long. In pushing the cloth beneath the drum his hand became entangled. The back of the hand was marked at intervals of six tenths of an inch with from 20 to 30 punctured wounds, here and there extensively lacerated, and extending deeply into the tissues. The forearm and hand were placed on a splint, and the wounds were covered with carbolized oil on lint, with cotton wool. The movements of the fingers were not affected, and the lad made a good recovery in twenty days. (Case 64, Table III.)

Punctured wound. Hæmorrhagic diathesis.—G. G., æt. 16. One brother who had died was said to have been a bleeder, and three younger children of the family (five) had a tendency to hæmorrhage after any slight wound; of these three the patient was the eldest. Father and mother dead.

About two years ago he had a lower molar tooth extracted, and the operation was followed by severe hæmorrhage, for which he was under treatment in the London Hospital. He said that he always bled profusely even from slight wounds, and was bruised by trivial blows.

Four days before his admission he ran a gouge into the lower part of the forearm, close to the line of the radial artery. He at once applied some glue to the part, which controlled the bleeding. But the forearm began to swell, and assumed a dark purplish colour as far as the bend of the elbow. On removing the glue hæmorrhage began again. A branch of the radial artery was found on cutting into the wound to be divided, and both ends of the vessel were tied; but during the operation and after there was such severe oozing from every part of the wound that it was only by firm compression that the bleeding could be arrested, and the following morning the blood forcing its way through the compress, the wound had to be plugged with lint, and was again tightly bandaged. Ordered Tinct. Ferri Perchloridi ♏xv. and Syrupi Ferri ʒj. thrice daily. The following day there was further loss of blood, and the compress was re-applied, having been first soaked in perchloride of iron. After this the hæmorrhage ceased, and he slowly convalesced, being much enfeebled, and much troubled by some local suppuration.

Punctured Wound of the Heart. Recovery.—The case of ——, æt. 31, from the apex of whose heart I removed a needle nine days after its insertion, is fully reported elsewhere.* (Case 65, Table III.)

* 'Med.-Chirurg. Transactions,' 1873.

Punctured wound of the Peritoneum.—G. B., æt. 34, fell whilst carrying a chisel in his pocket, and suffered from a wound which penetrated the peritoneum just to the right of the navel, the superficial opening being nearly two inches in length. Slight bleeding was readily stopped by the application of a compress. From the second to the tenth day after his admission he had the ordinary symptoms of peritoneal inflammation, the treatment of which consisted in the use of morphia by injection. He was discharged well six weeks after his admission. (For pulse and temperature, see Case 66, Table III.)

Punctured wound of Rectum and Bladder.—G. M., æt. 14. This boy was playing in a farrier's shop, and during a scuffle he fell in such a way that the pointed end of a pair of tongs penetrated the rectum. The accident happened the day before his admission. He removed with difficulty the foreign body, and walked home. When taken into the Hospital he had all the marked symptoms of peritonitis. Urine flowed freely from the rectum, and was slightly blood-stained. The bladder was examined with a catheter, but all the water was drained off through the bowel. He lay for a week under the influence of opium, and then died. (Case 67, Table III. for pulse, temperature, and respiration.) At the post-mortem examination it was found that the end of the tongs had passed through the rectum, and into the urinary bladder, exactly at the point of reflexion of the peritoneum. The serous membrane had been bruised, not torn, and had sloughed, allowing urine to find its way into the peritoneal cavity, which was inflamed. There was also sloughing of cellular tissue from escape of the contents of the bladder into the pelvic cellular tissue from which it had made its way in front of the psoæ muscles, and behind the transversales, also along the inguinal canal into the tissue about the tunica vaginalis testis of either side, and, lastly, through the crural canals and around the femoral vessels it was finding its way into the upper part of the thighs.

Lodgment of a piece of steel in the leg of a man, æt. 30, who was working at a steam hammer, whilst another man was striking a 'Mander' at a distance of about two yards from him, with a 17lb. hammer. A piece of cold steel flew off the 'Mander' and struck him in the front of the leg; the height of the 'Mander' from the ground was about four feet. Five days later he was brought to the Hospital, and I enlarged a small wound on the outer side of the tibia, and, after some trouble, discovered a foreign body embedded in the muscles, about two inches, in a downward direction, from the external

aperture, and close to the bone. It proved to be a plano-convex piece of steel, with sharp edges. The patient recovered quickly after its removal. (Case 71, Table III.)

Gun-shot wound of Left Arm.—J. K., æt. 36, was twice fired at: the first shot struck him in the right arm, making a simple flesh wound; the second in the left arm, on its outer and back aspect, just above the condyle. The humerus was shattered, and from amongst the broken pieces, two of which were removed, after enlarging the wound, two portions of clothing and the bullet were extracted; through the wound the finger could be readily passed into the elbow-joint. The arm was swung with a counter-weight balance; and, with the exception of some temporary trouble, from suppuration, the patient made a good recovery, and regained some flexion movement at the joint. (Case 93, Table III.)

Pretence,

Of Loss of Power in the Lower Extremities.—T. P., æt. 36. Ten days before his admission he was thrown out of a cart on to the edge of a curb-stone, and soon after lost sensation and the power of motion in the lower extremities, and two days later stated that he had retention of urine. The symptoms, with the exception of the retention, persisted on his admission a day later. P. 88, Temp. 98·4, Resp. 18. No injury could be detected. After lying at rest for some days, it was thought desirable to give this patient some chloroform, after which he was at once able to leave the Hospital without assistance.

Pretence of Tetanus.—The case of this patient, and his various impostures at different hospitals, has been detailed in one of the medical papers. So far as he came under my observation the following is his story:—E. M., æt. 45, was a man of most intemperate habits, and, for the last six weeks, had suffered from a carbuncle on the back of his neck. After twenty-five days, during which time he had once bordered upon an attack of delirium tremens, he had so far recovered from his carbuncle that he was shortly to be discharged. He had stated that he was a surgeon, and he now drew attention to some symptoms which he said alarmed him very much. He first felt stiffness about the carbuncle cicatrix, and he said that he thought the disease was returning; but presently the stiffness passed forward, involving the muscles of the neck, and he found he could with difficulty open his mouth, and could take only fluid food. He next began to suffer, and when I saw him was suffering, from general rigidity; the hands were

clenched, the arms and legs were stiff, and he rested on his head and his heels, as though with opisthotonos. My attention being called to him, the morning after the first of this train of symptoms had arisen, I found his pulse quiet, his temperature normal, and his respirations not materially hurried. The abdominal muscles were lax, and on my noticing this, I observed that he looked intelligently annoyed. Noticing him more closely, he seemed to be grasping something in his left hand, and I sharply insisted upon his showing us what it was. Taken off his balance, he at once opened his clenched hand, in which was a large piece of Cavendish he had removed from his mouth. Being told that he was considered to be imposing upon us, he was so much offended that, after we left the ward, he rose and walked out of the Hospital.

Syphilis.

These cases were interesting from their more or less doubtful character, and from the results of their treatment making it probable that they were of a syphilitic nature.

Paralysis of the Deltoid.—W. A., æt. 30, was taken into Darker Ward, stating that for eight months he had been unable to raise his arm to the level of the shoulder. There was an obscure thickening in or beneath the left deltoid, about the part of the muscle at which the circumflex nerve branches pass into its tissues. There was also a swelling on the scalp, and there was a history of his having had syphilis ten years previously. It was probable that the inability to raise the arm was chiefly due to some compression of the nerve fibres entering the deltoid. He got quite well under treatment with iodide of potassium.

Disease of the Tongue.—W. S., æt. 32. A swelling had been noticed five months, about the size of a pea, in the substance of the left side of the tongue. At first it increased slowly, but of late its growth had been very rapid, and it was, on the patient's admission, about the size of a hazel-nut, was painless and free from ulceration, but firm, and its margins were indurated. The glands were not affected. He stated that he never had had syphilis, but there was a suspicion of a scar on the foreskin. Under twenty-grain doses of iodide of potassium he got rid of the swelling in a month.

Disease of the Tongue.—J. G., æt. 36. After scratching his tongue with a clay pipe eighteen months ago, he began to have a swelling on the right side of that organ. The edges of both sides were extensively ulcerated, especially the right,

the whole tongue being enlarged, indurated, and of a dusky red colour; glands not affected. He had been under treatment at other hospitals, and had taken mercury. It was probable that he had had syphilis. Under twenty-grain doses of iodide of potassium, subsequently increased to thirty (I believe under Mr. Baker's direction), he got quite well.

Ulceration of the Upper Lip.—S. W., æt. 25. This man stated that he had bitten his lip two months ago. A sore followed which showed no tendency to heal, but formed an ulcer with a firm indurated base, situated to the right of the middle line, and covered with coarse granulations which readily bled. Two glands, at the angle of the mandible, were enlarged and indurated; there was no history of syphilis. The patient was an habitual smoker. The age of the patient, and the rarity of epithelial disease in the upper lip, made it very probable that this sore was syphilitic in its character, so the patient was put on five-grain doses of iodide of potassium, and got well in five weeks. He had been under treatment for some time before he was sent to the Hospital, and had taken mercury.

I have since seen, in the practice of Professor Humphry, at Cambridge, a case of epithelial disease involving the upper lip; and Sir James Paget has mentioned a second case to me, but such an affection of the upper lip is seldom met with.

Caries of the Shaft of the Femur.

These troublesome cases often come to the Hospital for treatment; and the following histories encourage us in practising the free exposure of the diseased bone, and the removal, by scraping, of the rough and carious parts:—

C. A., æt. 10. Caries of the surface of the lower and back part of the right femur, eight months, following a kick, with a sinus leading to the diseased bone, but along which a probe could not be passed to the carious tissue before the operation. Bone exposed and scraped. Wound healed, and the patient discharged, and remained well.

H. H., æt. 33. Caries of the surface of the lower and back part of the left femur; eight months. No history of injury, sinus discharging constantly, but no bone could be reached, either with an ordinary or with Sayre's flexible probe. Bone exposed and scraped. Wound healed, patient remained well.

A. F., æt. 11. Caries of the surface of the outer and back part of the right femur; eighteen months. Sinus leading

to the diseased bone, which was exposed and scraped. The sinuses closed, and the patient was well about two months later.

TABLE IV.

FRACTURES.

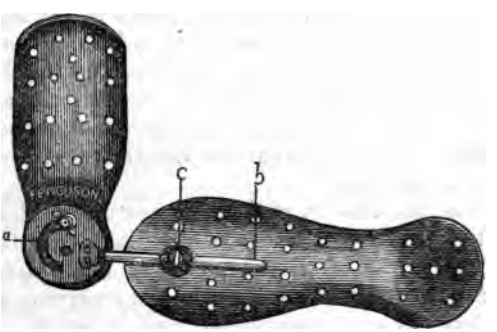
Compound Fractures treated in the Wards.

Nature of Injury	No. of cases	Recovered	Died
Of humerus into elbow-joint	2	2	—
Of olecranon into elbow-joint	1	1	—
Of radius and ulna	2	2	—
Of femur	1	1	—
Of patella into knee-joint	1	1	—
Of fibula	2	2	—
Of tibia and fibula	11	11	—
Of superior maxilla	2	2	—
TOTALS	22	22	—

The following cases were of interest in various ways, as will be seen from the remarks added to each:—

Compound Fracture of the Left Radius and Ulna.—W. H. H., æt. 10, whilst jumping, fell, and fractured the radius at its middle, the ulna at its lower third. Owing to the difficulty experienced in keeping the bones in position, I had a splint made especially for this case, which has proved of

FIG. 3.



general use in the treatment of fractures of the forearm. It is figured above, and consists of two light metal plates, one for fixing the arm, the other for applying to the forearm; between these elbow-joint movement is provided for, if required.

by means of the hinge *a*; by securing the forearm splint to the rod *b*, by means of a screw *c* rotation movements are also obtained, and the forearm splint can be adjusted so as to fix the radius at any angle of rotation. The use of this splint consists in giving, when needed, greater security to the forearm by fixing the elbow, and consequently the muscles, which pass from the arm to the forearm and hand, and in enabling the surgeon to fit the lower end of the radius to the angle of supination to which, in fracture of the bone below the tubercle, the upper fragment is always drawn by the unbalanced action of the biceps and supinator brevis. To obviate deformity and loss of rotation movement, the distal portion of the radius should be supinated to an angle of 120° in the arc of the circle through which the hand moves in pronation and supination, as I have elsewhere fully explained.*

Dislocation of the Femur. Fracture at the neck of the Thigh-bone during reduction by Manipulation.—P. R., æt. 54, fell down a flight of stone steps, and sustained a dislocation of the femur on to the body of the os pubis. Just as the head of the bone slipped by manipulation into the socket, the neck of the femur snapped across. The head of the bone, isolated in great measure from its supply of blood by separation from the shaft, and by laceration of the ligamentum teres, failed to unite to the distal portion of the femur. Permanent shortening two inches, the trochanter being displaced upwards towards the dorsum ilii.

Separation of lower Epiphysis from the shaft of the Femur.—F. W. P., æt. 11, sustained also a severe lacerated wound on the inner side of the knee, which led down to the injury at the epiphysis, and was caused by his getting his leg entangled in the wheel of a cart whilst he was hanging on behind the carriage. There was firm union in six weeks, without shortening of the limb. I sent for the lad sixteen months later, and found that the injury had so far not interfered with the growth of the femur in length.

Fractures of the Femur, giving the amount of shortening of the limb at the time of each patient's discharge, fractures at the neck of the femur, and in children under 5 not included. I give this list of cases because of the very varying statements which have been made by surgeons respecting the results of treatment as regards the length of the limb.

* On Fractures injuring Joints, 'St. Bartholomew's Hospital Reports,' vols. i. and vi. The splint here described was made for me by Mr. Ferguson.

TABLE V.

Transverse Fractures, or Fractures so little oblique as to be undistinguishable from transverse fractures.

Site of fracture	Sex and Age	Shortening
1. Upper third . . .	M. 26	Half an inch
2. „ „ . . .	M. 42	Three-quarters of inch
3. Middle „ . . .	M. 17	Half an inch
4. „ „ . . .	M. 24	Half an inch
5. „ „ . . .	M. 41	No shortening
6. „ „ . . .	M. 42	Less than half an inch
7. „ „ . . .	M. 30	One inch and a half
8. „ „ . . .	M. 7	No shortening
9. Lower „ . . .	M. 42	Three-quarters of inch
10. „ „ . . .	M. 17	Less than half an inch
11. „ „ . . .	M. 5	No shortening

Comminuted Fractures.

Site of fracture	Sex and Age	Shortening
12. Through trochanter . .	M. 47	Half an inch
13. „ „ . . .	M. 37	Less than half an inch
14. Upper third . . .	M. 17	Two inches and a half *
15. Lower „	M. 22	One inch
16. „ „	F. 58	Less than half an inch
17. „ „	F. 71	One inch and three-quarters

Oblique Fractures.

Site of fracture	Sex and Age	Shortening
18. Middle third, impacted .	M. 14	Two inches
19. Through condyles . .	M. 29	One inch
20. „ condyle (inner only)	M. 29	No shortening

Injury to the Spine. Paralysis. Recovery under Electric Treatment.—G. S., æt. 38, was under treatment since four years ago for a fracture of the vertebræ in the lower dorsal region. He was discharged with complete loss of power of motion in the lower limbs, and with sensation greatly impaired; and has since for the most part been an inmate of a workhouse, but has occasionally been under treatment in the Hospital. He was now admitted into Darker Ward with

* In this case the fracture was treated by a ship's carpenter.

severe ulcerations about the feet. Portions of the ends of most of the toes had been destroyed, the stumps were hard and glazed, and the nails were wanting, or formed irregular crust-like masses. The skin of the affected limbs was tense, glazed, shining, and readily ulcerated, as from exposure to slight cold, or, as had repeatedly happened, from the action of such warmth as a poultice gave. On examining the muscles, they were found to be very slightly influenced by an electric stimulus, and the integument was in parts slightly sensitive. He often had burning, or as he termed it stinging, pain in the parts, not, however, constant, and subsiding spontaneously—not having been relieved by any kind of treatment. Whilst the ulcers, which extended deeply into the tissues, were slowly healing, I thought it might be worth while to try the effect of a continuous current, and for four months, from December 28 to May 7, one of Störher's batteries was daily employed for a quarter-of-an-hour, beginning with eight cells, and subsequently working with from twelve to twenty.

I record this case because of all those which I have seen it has left on my mind the strongest impression as to the great use of the electric treatment, and has taught me not to give up as hopeless the treatment of even the least promising case. This man was, when admitted, helpless, and practically (for he could do nothing without assistance) bedridden. The ulcers healed, the skin acquired a fairly natural condition; the limbs became comparatively well nourished, and Mr. Symons, our Registrar, has this final note of the case—

'May 7. Discharged. A good result. Walks well with the aid of a stick.'

Injuries to the Head.

Severe Scalp Wound, Fracture of the Skull, Fracture of Dorsal Vertebræ.—L. J., æt. 44, a labourer, was knocked down at the Mansion House Station, by a train. There was a large lacerated wound of the scalp on the right side of the head, and the parietal bone was comminuted about the anterior superior angle. Several ribs were broken on either side. The left fibula was fractured, and at the 9th, 10th, and 11th dorsal vertebræ there was considerable displacement, as if from fracture, with partial loss of power over the lower extremities and pelvic contents, but no impairment of sensation. The patient was placed on a water-bed, and made a good recovery. The bladder regained its tone in four days, and complete power was restored to the lower extremities ten days after the

occurrence of the accident. Concussion of the cord, or pressure from some slight hæmorrhage, had probably occasioned the temporary paralysis.

Fracture of the Skull.—G. G., æt. 30, whilst going down the stairs of a house had a pail fall upon his head, causing concussion and a comminuted fracture of the occipital bone. Recovered, without an unfavourable symptom.

Fracture at the Base of Skull.—J. H., æt. 29, fell from a height, and although at first sensible, soon became restless, and then drowsy, and was roused with difficulty. Pulse irregular, breathing natural. (Case 98, in Table III.) He vomited two or three times large quantities of blood. After passing a quiet night, and taking some food, he could with difficulty be got to answer questions. He complained of pain, about a severe bruise over the right parietal bone and adjacent portion of the frontal, and the parts around the right orbit were so much contused that it was with difficulty the eye could be examined. The left pupil acted naturally, the right was fixed (midway between contraction and dilatation), and its conjunctiva was generally ecchymosed. On this side there was total loss of vision. Whilst concluding from the symptoms that this patient had sustained a fracture at the base of the skull, and, from the bleeding into the nares, probably at the anterior fossa, we further surmised that the loss of vision indicated pressure from hæmorrhage upon the optic nerve within the orbit; for if the hurt to the nerve had fallen upon the part in relation with the optic foramen, it is scarcely possible but that we should have had symptoms due to injury of other nerves in its vicinity, such as ptosis, or strabismus, from paralysis of the recti. If, further, the commissure or track of the nerve had been damaged, the left eye would probably have to some extent participated in the hurt; and, further, ophthalmoscopic examination showed that the retina had its natural appearance. Concluding, therefore, that the loss of vision was not improbably due to pressure on the optic nerve as it passed from the foramen to the sclerotic, it was to be expected, if this pressure was caused by hæmorrhage, that we should have some recovery of nerve function at the time of the removal, by absorption, of the ecchymosis of the conjunctiva. Three weeks later the conjunctiva was nearly clear, and the patient could distinguish and count fingers with the right eye at three feet. From this date sight did not improve, so that the function of the right optic nerve was by the bruising rendered permanently imperfect. Further, from the inactive state of the

iris, and from the subsequent rapid atrophy of the globe, it was evident that the ciliary nerves had been spoiled at the time of the injury.

With partial recovery of sight, and otherwise in good health, this patient was discharged ten weeks after his accident.

The interest in this case centered in the diagnosis, and in the prognosis respecting the recovery of sight. In the following case an equally interesting diagnosis of local brain hurt was confirmed by post-mortem examination:—

Fracture at the Base of Skull.—E. F., æt. 45 (Case 96, Table III.), fell down stairs, and was admitted the following morning in a state of insensibility. He had his mouth drawn to the left side, and the left side eyelids were imperfectly closed. As he came out of his state of insensibility he evidently suffered from pain on the right side of his head, and on this side he heard imperfectly. He had lost all memory of words, replying 'yes' or 'no' to every question. He seemed to try to recollect the names of various articles shown to him, but could not succeed in doing so; yet when told the right name of anything—when asked, for instance, if it was a watch which was held before him, he said 'yes' or 'no' quite correctly, and he turned round a watch so as to see the time, to which when asked he p inted, indicating the hour and minute hands. He remained in this condition for six days, then became comatose, and died six hours later.

I had little doubt but that we should find some injury to the left side of the brain, anterior to the fissure of Rolando; and our diagnosis proved to be right, for there was bruising of the brain extending deeply through the anterior ascending parietal convolution towards the outskirts of the corpus striatum, with some effusion of blood in the arachnoid over the left middle lobe. The fracture of the base was through the right middle fossa. The facial and auditory nerves may have suffered from blood extravasated on either side along the course they followed.

Fracture of the Base of the Skull. Recovery.—M. A. K., æt. 16, fell from the verandah of a model lodging-house, a height of about fifty feet. When admitted she was confused, but sensible; pulse laboured. Hæmorrhage from nose and mouth, without any external wounds, vomiting large quantities of blood. She had a severe bruise around the right eye, and there was considerable ecchymosis of the conjunctiva on the same side. (Case 97 in Table III.) She subsequently suffered from headache and giddiness, but recovered, from what we had

no doubt was a fracture, probably involving amongst other parts the ethmoid and the orbital plate of the right half of the frontal bone. She was discharged six weeks after her admission.

Epilepsy following a blow on the head.—F. W., æt 58, of previous good health, but who had suffered from syphilis, fell, twelve months before his admission, whilst carrying a cask of tallow, and was much bruised about the left shoulder, and had pain in the same side of the head. From this time he suffered from epileptic fits, which latterly becoming of more frequent occurrence, he applied for advice. On examining the left shoulder there was found a considerable periosteal thickening about the collar-bone, and it was thought probable, with the history he gave of having had syphilis, that the injury had caused local irritation to result in a thickening of the lining of the inner table of the skull as of the covering of the clavicle. The patient also suffered from speech hesitation, and loss of memory of words. We put him on iodide of potassium; and as the swelling over the clavicle lessened, and at last disappeared, the brain symptoms subsided, so that he was discharged two months after his admission, nearly well, his recovery being completed whilst he was an out-patient.

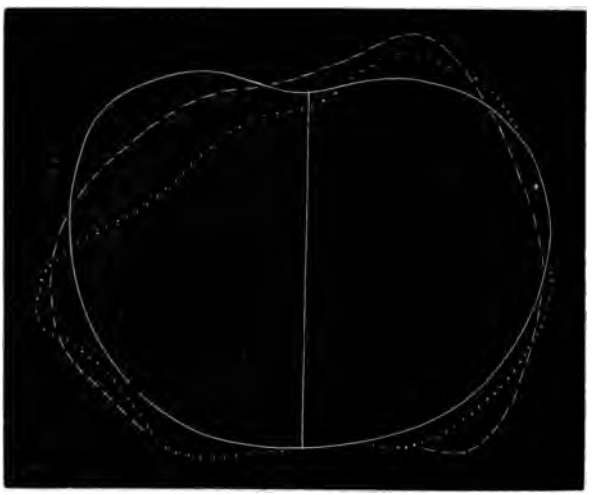
Injuries to the Chest.

Fracture of Ribs; Wound of Lung.—F. W., æt. 15, was admitted—a sack of coals having fallen upon his chest—with fracture of four ribs on the right side, with severe bleeding from the lung, a considerable quantity of blood being lost. The pain from which he suffered was relieved by morphia injections, one-sixth of a grain daily, and by the pressure of a bandage. The case was of interest because of the youth of the patient, and because of the tolerance of and good effect from the morphia injections. The patient made a good recovery.

Crushed Chest.—J. B., æt. 48, was caught between the buffers of two carriages on the London and Chatham Railway, whereby the left side of his chest was crushed in towards the right side, forcing out the right front wall, so that whilst on the left side there was flattening of the thorax, on the right there was undue prominence at the line of juncture of all the true ribs with their cartilages, the angle of their disunion forming a prominent, nearly vertical ridge, and the sternal end of the right clavicle being displaced forward. There was emphysema over the right side of the chest, the right lung was collapsed, and there was expectoration of blood. The accompanying cyrtometric diagrams show the change

produced in the outline of the chest. They were taken for me by Dr. Moore. This patient recovered, resting simply, but the deformity of the chest persisted; the right lung expanded. (Case 81, Table III.)

Fig. 4.



Cyrtometric outlines of chest. The dotted lines indicate the deformity caused by the injury as compared with a typical figure. [The dots give the outline at the sterno-xiphoid articulation, the short lines at the level of the third costal cartilage.]

Stricture of the Urethra, with Retention.

I agree with some remarks, recently published by Dr. Thiry, respecting the practice of puncturing the bladder, for retention of urine.* Dr. Thiry states that he never knew the stricture which could prevent him passing a catheter into the bladder. I have never had occasion to puncture the bladder for retention, except in the case of a female who was admitted with retention consequent upon blocking of the urethra by the growth of a cancer tumour.

In all severe cases of retention, no attempt at passing a catheter should be made until the patient has had a warm bath, a full dose of opium, and a purge. If relief does not follow from this treatment, and it almost invariably does follow it, a catheter is passed under more favourable circumstances after

* 'La Presse Médicale Belge,' Septembre, 1872.

such treatment has been employed, and after the patient has been for a time recumbent in bed, than if the attempt had been made when he first applied for treatment. If the patient passes water in or after the bath—and I never knew one fail to do so—even although the bladder may not be thoroughly emptied, it will give him a couple of days in bed, with opiates if needed, before using an instrument. When a catheter is passed, I have it tied in for as long a time as the patient can conveniently bear it, usually for two days, beyond which time it is needless to have it retained. On withdrawing it, no difficulty is experienced, the same day or the day after, in passing a much larger instrument, generally a No. 6 or No. 8 silver catheter. In some cases I find it necessary to dilate the stricture with a catgut bougie before introducing a metal instrument, but in such instances the passage for the urine has been narrowed to an extreme degree, and the cases are not of frequent occurrence.

It is a point which cannot be too strongly insisted upon, that the operation should not cause the urethra to bleed; if any blood escapes through the instrument, or by its side, while it is being passed towards the bladder, it is my invariable rule to desist from the operation for the time. As an instrument is to be passed by manœuvring, by patience, and when held in a stricture, by steady but moderate pressure, and as the exercise of any violence is sure to defeat our object, much handling of the urethra is carefully to be avoided. One hand only should be used by the operator in introducing an instrument, except in those cases in which the stricture is situated towards the distal end of the urethra, when the other hand may be needed to steady the penis.

Except for the purpose of clinical teaching, I have not used instruments for curing a stricture by splitting it, than which it is my opinion that the treatment by means of dilatation with catheters, as here described, is based upon more sound principles of surgery, and is in its results of greater permanent benefit.

I have never considered it necessary, or have thought it desirable, to operate upon a stricture by cutting into the perineum.

Of these cases (see Table VIII.), six persons referred their stricture to some injury, such as a blow, a kick from a horse, or from falling astride a spar on ship-board; in the remaining cases the stricture seemed to have followed attacks of gonorrhœa. Two cases were complicated with urinary fistulæ.

TABLE VI.

	Age	Duration of Retention	Intermediate Treatment	Duration of Stricture	Treatment with Catheters	Date of discharge from Hospital
		hours		years		
1.	29	12	bath, opiate, purge.	5	On second day 1-3 catheter tied in for two days, on eighth day No. 8 passed.	12 days after admission.
2.	42	16	ditto	7	On second day catgut bougie passed, on fourth day 1-3 catheter tied in for two days, on tenth day No. 8 passed.	10 ditto
3.	29	24	ditto	3	On second day 1-3 catheter tied in for thirty-six hours, on sixteenth day No. 8 passed.	26 ditto
4.	54	18	ditto	10	Suffered for some time with gastric disturbance, with high temperature. Mr. Ferguson passed a catgut bougie which was tied in for four hours, and twelve days later the patient was discharged, No. 6 being easily passed.	—
5.	46	12	ditto	4	On second day catgut bougie passed and kept in for four hours, on eighth day No. 8 passed.	10 ditto
6.	25	16	ditto	5	On second day 1-3 catheter tied in for twenty-four hours, on eighth day No. 8 passed.	20 ditto
7.	32	14	ditto	1	On second day 1-3 catheter tied in for two days on fourth day No. 8 passed.	4 ditto
8.	29	16	ditto	13	On second day 1-3 catheter tied in for two days, on fourth day No. 8 passed.	6 ditto
9.	35	18	ditto	12	On second day 1-3 catheter tied in for two days, on sixth day No. 8 passed.	10 ditto
10.	63	14	ditto	19	On first day 1-3 catheter tied in for two days, on fifth day No. 8 passed.	20 ditto
11.	22	12	ditto	4	On second day No. 1 catheter tied in for ten hours, on third day No. 4 for two hours, on fourth day No. 8 passed.	7 ditto

TABLE VI.—*continued.*

	Age	Duration of Retention	Intermediate Treatment	Duration of Stricture	Treatment with Catheters	Date of discharge from Hospital
		hours		years		
12.	36	18	bath, opiate, purge.	12	On second day catgut bougie passed and left in for three hours, on fifth day 1-3 catheter passed and tied in for two days. This stricture yielded slowly, but in the fourth week the patient could readily pass No. 8 for himself. As he was going to Brazil he was kept in longer than usual to ensure his command over the stricture.	one month
13.	58	18	ditto	20	On second day 1-3 catheter tied in for two days, on sixth day No. 8 passed.	10 days

CASES OF LITHOTOMY.

1. Male, æt. 22. (London.) Lithic acid stone. Lateral operation; recovered.
2. Male, æt. 21. (From Westerham.) Lithic acid stone. Lateral operation; recovered.
3. Male, æt. 47. (From Peterborough.) Phosphatic and lithic acid stones (2). Lateral operation; recovered.
4. Male, æt. 10. (London.) Lithic acid stone. Lateral operation; recovered.
5. Male, æt. 4·5. (From Luton.) Oxalate of lime-stone. Lateral operation; recovered.
6. Male, æt. 60. (London.) Phosphatic stone. Lateral operation; death.
7. Male, æt. 3·5. (From Berkshire.) Phosphates coating lithic acid stone. Lateral operation; recovered.

In case 3, the operation was complicated by the patient having his left hip joint anchylosed, so that the thigh could not be flexed upon the abdomen. Practically the position of the limb did not interfere with the cutting operation. In case 6, it was considered right to practise lithotomy rather than lithotrity, as the man had a bad stricture and an enlarged prostate. Both kidneys were extremely degenerated, and their condition determined the result.

TABLE VII.

Sex and Age	Situation of Hernia	Duration of Strangulation	Sac opened or not	Result	Remarks
		hours			
1. F. 69	Femoral	186	opened	died	12 hours after the operation from peritonitis. Bowel gangrenous.
2. F. 56	Umbilical	120	,,	,,	14 hours after the operation from peritonitis. Bowel gangrenous.
3. F. 58	Femoral	144	,,	,,	from collapse after action of bowels two days after the operation. Nothing found in post-mortem examination.
4. F. 70	Femoral	56	,,	,,	within 24 hours, from exhaustion.
5. M. 70	Inguinal (oblique)	48	not opened	,,	exhaustion 8 hours after the operation.
6. M. 29	Inguinal (oblique)	6	,,	recovered	
7. F. 36	Femoral	46	,,	,,	hernia protruded in front of the femoral vessels.
8. M. 14	Inguinal (congenital)	72	,,	,,	probably obstruction only during greater part of three days.
9. M. 16	Femoral	12	,,	,,	
10. F. 43	Femoral	36	,,	,,	
11. F. 49	Inguinal (incomplete)	106	opened	,,	probably obstruction only during greater part of four days. Bowels slightly congested.
12. M. 19	Inguinal (congenital)	17	not opened	,,	
13. F. 65	Femoral	10	,,	,,	
14. M. 65	Femoral	15	,,	,,	
15. M. 21	Inguinal (congenital)	10	opened	,,	
16. F. 22	Inguinal (oblique)	144	,,	,,	stricture at the internal ring at the neck of the sac. Probably obstruction only during greater part of the six days. Bowel slightly congested.

Cases of Strangulated Hernia.

In Table VII. the fatal cases will be found to be those in which a long time has been allowed to elapse between the occurrence of strangulation and the performance of an operation for its relief.

The operation is in itself so slight a risk, and its results are so favourable when practised at an early stage of the strangulation, that it cannot be too often repeated that to delay its performance is inexcusable.

In two cases the patients, both of whom were over seventy, died from exhaustion, caused by the incessant vomiting prior to the operation. In one case the patient had been exhausted in the same way, and died suddenly, at the time of the bowels acting profusely two days after the operation. Two women died of gangrene of the intestine and its consequences. In all the fatal cases the age was somewhat advanced, the youngest being fifty-six years, and three being in their seventieth year.

The reason for concluding that in three cases which recovered (Nos. 8, 11, 16) the strangulation was of comparatively short duration, was, that the symptoms were not severe: in case 8 there was not even vomiting; whilst in the cases 11 and 16 the bowel was necessarily exposed, and was seen to be in a fairly healthy condition.

Case. 11. This patient was admitted, under the care of Dr. Southey, with symptoms of obstruction of the bowels, having suffered from constipation and vomiting for four days. Medicines had been freely administered before she came under our notice. In the right inguinal canal there was a very obscure fulness; but under the circumstances, I thought it right to explore this region. Just inside the external ring there was a small portion of omentum, the size of a hazel nut. Beyond this the canal seemed free, but on laying it open in its entire length, I found the extremity of a small knuckle of intestine protruding at the internal ring. After dividing the ring, this was easily returned, and the patient recovered. The case was of interest from the obscure character of the swelling in the inguinal region, an obscurity increased by the quantity of fat which occupied the covering wall of the abdomen. (Case 50, Table III.)

CASES OF OVARIOTOMY.

TABLE VIII.

Age	Nature of Cyst	Result	Remarks
27	Simple cyst, no adhesions	Recovered	
41	Multilocular cysts firmly adherent	Recovered	Adhesions thick and dense requiring great force to separate.
20	Simple cyst, slight adhesion to omentum	Died	From peritonitis on ninth day.
24	Multilocular cysts, no adhesions	Recovered	
36	Multilocular cysts, no adhesions	Died	From peritonitis on sixth day.
25	Simple cysts, slightly adherent	Recovered	Suffering from acute peritonitis at the time of the operation.

I do not refer to the tumour cases which have been under treatment, as the more important of them will be related by Mr. Butlin; and the length to which these notes have extended prevents my mentioning various isolated cases of some interest; amongst others, one of transfusion, and a case in which an abscess connected with a displaced kidney was opened through the peritoneum. (Case 47, Table III.)

No external aneurism has been under treatment during the two years.

The aspirator (Potain's) has been useful in cases of paracentesis; but I do not consider it of much service in the treatment of abscesses. I used it in one case of hernia, without result either for good or for evil.

ARTICLE II.—*On Adenoid Disease.* By R. SOUTHEY, M.D.

CASE I.

ELLEN HIGGINBOTTOM, æt. 31, was admitted into Luke's Ward, under my care, on July 27, 1871. She was married, and had had eight children. She was short, slightly-built, emaciated, and very anæmic; her eyes were deep sunken in their sockets, and her skin looked shrivelled and was harsh and dry to the touch. She told me that she had lost flesh rapidly, a statement which could well be credited from her appearance.

The noticeable feature about this woman was the enlargement of her cervical glands, which could not fail to attract notice. Some of the glands were as large as walnuts, but the larger number varied from the size of large beans to that of marbles; they felt firm rather than hard, the outline of the separate glands being fairly distinct; and although packed close together, and moving together in a mass, like balls in a net, they were not accreted together, after the manner of scrofulous or carcinomatous glandular enlargements.

Nor was it the cervical system of glands only which were thus enlarged; the inguinal and axillary glands were quite similarly affected.

Thoracic Examination.—Resonance on percussion, and respiratory movements impaired on both sides anteriorly, but more on the left than on the right; marked difference in shape between the right and left sides when viewed from behind; the bunch of enlarged glands, which is greater upon the left side of the neck, extending downwards, so as to fill up the left supra-scapular as well as the left supra-clavicular fossa entirely. No abnormal sounds were audible over the right lung, but creaking, crepitation, and occasional sibilus were heard all over left lung, while throughout it the vesicular sounds were defective. These abnormal moist sounds occurred principally at the base and root of the left lung.

There was therefore evidence enough of disease in the left lung for me to pause in my diagnosis, and consider if I had a case of carcinoma (involving the posterior mediastinum, implicating the root of the left lung, and attended by secondary glandular enlargements) or a case of phthisis before me.

Abdomen.—Rather shrunken; no tumour discovered; no marked enlargement of either spleen or liver.

Functions.—Bowels are generally constipated; urine natural in colour and quantity; she has not menstruated since her last child was born, three-and-a-half months ago.

Her pulse was quick and feeble, varying from 84 to 100; her temperature as high as 100·5° at night, but 98·5° or 99° usually of a morning; her respirations 20 to 28 per minute. Her cough was at times troublesome, expectoration chiefly mucus and inconsiderable; her appetite was bad, tongue red, dry, and fissured, and presenting marks of having been recently bitten.

Her manner was excited and anxious, and her apprehension about herself, and the issue of her illness, evidently great.

She gave the following history of herself. Fourten weeks

ago she considered herself strong and well; this was just previous to her confinement; but parturition was succeeded by a severe flooding. She had had previous floodings at previous labours, but this had been the most profuse she ever experienced, and since it she had never regained her strength.

Her chief complaint was of her cough and her weakness (she had never had any hæmoptysis), and of chilliness. She came into the hospital on account of a fit.

A month before she came to the hospital she had a severe epileptic fit, the first in her life, and on the day of her admission another; in both fits her tongue had been bitten.

I examined her blood with the microscope, but observed no abnormal increase of the white cells.

Course and Progress.—For the first few days after her admission sickness was the prominent symptom; for this she was ordered a light milk and farinaceous diet, and some bismuth as a medicine. The sickness ceased, and her appetite returned. She cheered up greatly, took some quinine, and fourteen days after admission enjoyed a full meat diet, and took some porter.

During the months of August and September the fits recurred at pretty regular intervals, once in about every four days; their average duration was only from three to five minutes; they were followed by sleep or prolonged drowsiness, and often by headache, yet upon awaking she always eat her food with good appetite. She improved in appearance, but did not gain flesh; her skin became much less harsh, and perspired naturally. She presented no high temperature, nor any symptom of regular hectic; nay, she felt habitually chilly, shivered whenever a window was open, or when she was being examined. Her cough was the most troublesome symptom about her.

Towards the end of September she took cod-liver oil, iron, and quinine, and her glandular enlargements—those, at least, in her neck—were certainly rather smaller than they had been. She was in much better spirits about herself, and indeed was better in all respects but one—that her fits were both more frequent, longer, and more severe.

In October the fits were diurnal, often occurring twice in the same twenty-four hours. I could observe no noticeable increase in the size or number of her glandular swellings, but her digestive powers began to fail, her cough became attended by more copious expectoration, and her intellectual powers were decidedly enfeebled. During the last week of her life,

she had sometimes more than two fits in each twenty-four hours, and never was thoroughly sensible between whiles, only waking up out of a semi-comatose state to talk incoherent nonsense; but still she swallowed whatever fluids were given her with avidity.

The day before that of her death, which occurred on October 30, she lay in a completely unconscious state, having quite cold extremities, with fixed eyeballs, and with dilated pupils; her respirations were stertorous, 28 per minute. Pulse 56; so small, too, as to be scarcely perceptible at the wrist.

Post-mortem Examination, eighteen hours after death.—Body much emaciated; brain natural; no clot in sinuses; blood generally very fluid, but that taken from the right auricle, and placed under the microscope, exhibited no increase of white blood-cells in it. Cervical glands, especially those of left side, much enlarged, of grey colour, semi-translucent, exhibiting uniform hypertrophy of all the normal gland elements. The glands of both anterior and posterior mediastinum were similarly hypertrophied, although no single one attained a size larger than that of a chesnut.

Right lung partly adherent to the pleura, left lung less so. Both lungs contained numerous nodules, the remains of past lobular pneumonic infarctions; at the apex of the left lung there was some puckering and induration of the long tissue, around an old consolidation. Heart-valves normal. Heart itself small, and the muscle of brownish colour.

Liver rather full of blood, but normal.

Spleen a little enlarged, and tough upon section; contains numerous whitish-yellow nodules, which vary in size from a pin's head to a large split pea. Mesenteric and lumbar glands enlarged, similarly to those in other parts.

Stomach and intestines natural.

Kidneys appeared swollen, and in a state of recent parenchymatous nephritis. There were numerous urate deposits in the tubules of the pyramidal portions.

A careful microscopical examination of the bronchial glands, instituted after hardening them in chromic acid, showed the increase in size to be due to a hyperplasia of all the normal gland elements; cells with nuclei of various sizes imbedded in cytogenic recticular tissue, the structures being denser from the relative increase of the connective tissue and fibrous stroma, and appearing fuller because the whole was more closely packed together.*.

* The microscopical appearances correspond entirely with those which have

CASE II.

Fred. Webb, æt. 28, a carpenter by trade, was admitted under my care into Luke's Ward, March 14, 1873. He was of average height, a thick set, round and high-shouldered fellow, having dark brown hair and eyes, the most noticeable thing about his figure being the thickness and nodular fulness of his neck. His face had a livid unhealthy flush upon it; his ears had a like congested look; but his general complexion was anæmic, rather sallow, and the skin of his cheeks was flabby, and trembling like jelly as he walked. Lips dry and pale, gums pale, tongue furred and inclined to be dry, fauces congested-looking, breath offensive. Temp. 100·2°. Resp. 31.

There was a slight antero-posterior curvature of his spine, so that his thorax was hollowed in front and bowed behind; indeed his was the bent figure and feeble walk of the old man, with a face that looked even younger than his span of years.

The resonance was not very good under either clavicle, decidedly impaired in the upper and outer mammary region of left side, and the respiratory sounds were feeble, and attended with sibilus and prolonged expiration in this situation. Air appeared to enter more freely into right lung, but there was sibilus and creaking and rhonchus over right scapular portion; and catarrhal sounds, such as sibilus, were scattered about both lungs behind.

Heart's apex indistinctly felt between fifth and sixth ribs, within the nipple line. Sounds clear but feeble.

Abdomen, full; increased hepatic and splenic dulness, some tenderness; spleen not to be felt, however.

Ankles slightly anasarcous.

He complained of a bad cough, of great languor, unwillingness and a sense of too great feebleness to do anything: he moved as one who could hardly carry his own weight about, and expressed himself in such a slow, languid, indolent indifferent manner, that it was easy to see that both mind and body were overwhelmed with vis inertiæ. Whether he could ever have had much energy I do not know, but there was none left in him.

Functions fairly well performed; appetite good; rather thirsty; bowels regular; urine, rather scanty and dark coloured, contained a trace of albumen when first examined. No expectoration with his cough; sleeps badly; wanders occasionally in his talk at

been so admirably figured by Dr. Cayley, and described by Dr. H. Dickinson, in his 'Account of a Case of Lymphoid Growth in Spleen and Lymphatic Glands,' communicated to the Pathological Society, and published in vol. xxi. 1870, p. 370, of their 'Transactions.'

night. Formerly he was rather intemperate. His illness has been a gradual affair. About three years ago he first noticed his neck to be fuller than usual, and that his voice was getting hoarse; ever since he has been losing flesh, he thinks. He used to weigh 10st. 6lb., but now hardly weighs 9st. Had gonorrhœa thirteen years ago, but no other special illness. Last summer he suffered from diarrhœa; three months ago he says he spat up a little blood with his cough. Feels much less able to walk than he did; has great difficulty in coming up stairs. His sight is less good than formerly.

Now the feel of the glandular enlargements in this man's neck was highly characteristic; you could make out the hypertrophied condition of each separate gland, but they hung together like grapes on a stalk, and were not conglomerated or matted together; they were not fused into a boggy mass like scrofulous glands; they did not feel knobby and cartilaginous like scirrhous cancer; they had individually attained larger size, and had a less hard feel than syphilitic glands possess. The axillary and inguinal glands also were slightly enlarged. From the moment of his admission I believed him to be the subject of what used to be called Hodgkins' disease, or lymphadenoma, and the progress and issue of his case confirmed my diagnosis.

Course and Progress.—His temperature chart—not a perfect one, for each day's temperature is not recorded—told that the body heat was invariably high, fluctuating between 100° and 103°. Our observation of him taught us that his mental state was peculiar; that whenever his temperature was above 102° he was more or less delirious, troublesome to manage, noisy, full of fancies and fears. Upon, or soon after his admission, we examined his blood under the microscope. I could notice no excess of white cells in it. On March 24 another examination inclined me to believe that there might be rather more white cells than is usual in the field. On April 4 I could feel the spleen distinctly enlarged. His appetite, which had been good, too ravenous almost, began to fail; on April 5 he complained of headache and diarrhœa, and he became very drowsy and difficult to arouse by day and very delirious at night, calling out at times vehemently. His forehead now presented a set frown; there was some conjunctivitis of left eye. Abdomen was full and tender. On April 8 he was sick, bringing up some green bilious fluid; he was, and had been since the 5th, more or less wandering, but he complained of great pain in his head. On April 9 his tongue became brown, furred, and typhoid-like

his abdomen was full, tympanic and tender, and mottled-looking; he had been for twenty-four hours in a comatose state, passing his motions and urine involuntarily under him, but taking what food was given him. There was a peculiar tremulousness about him, most noticeable in hand and eyelids and tongue. A loss of muscular co-ordination, just such as one perceives in fever.

Out of this comatose condition he came, however, on April 11; the diarrhœa was controlled, he slept better, and began to feed himself again. The temperature* fell to 98·8°, and for three or four days he seemed better; but on April 16 the chest symptoms became more severe; his cough was more troublesome. On the 28th there was increased dulness in the left lateral region of his thorax; abundant fine crackling crepitation over left mammary region, with very little normal respiratory sounds. There was a little tendernesss too, upon pressure, over the base of the left lung. These physical signs, confirmed by the compensative breathing upon the right side of the chest, led me to diagnose a low form of pleuro-pneumonia invading the left lung, a complication which I thought was most likely to terminate his case shortly, and a condition of lung which the post-mortem fully verified.

On May 2 the expectoration became more viscid and rusty; his respiration was 48 per minute. Pulse 119; temp. 100·2°. His breath was very offensive; he had vomited his food, and was more restless, delirious, and sleepless. A patient suffering with dementia in the bed opposite him had been violent and noisy, and required strapping to his bed; and the excitement thus occasioned completely upset this poor fellow, and his mind was filled with fears and delirious horrors, so that he was with difficulty kept in bed. His breathing became more oppressed;

* *Temperature Table of Fred. Webb.*

Date	Fahr.	Date	Fahr.
March 14	100·2	April 13	99·4
„ 24	103·2	„ 14	102
„ 31	101·6	„ 15	100·4
April 4	102·2	„ 16	102·2
„ 5	103·2	„ 17	101·4
„ 6	102·8	„ 18	102·4
„ 7	101·4	„ 19	101·6
„ 9	100· to 101·4 evening temperature	„ 21	102·2
„ 10	102· „ 102·6 „ „	„ 24	101·8
„ 11	100·4	May 2	102·4
„ 12	98·8		

and although he continued to take nourishment well nearly to the end, he gradually sank—with his lungs becoming more and more engorged, breathing more rapid, and pulse more and more feeble and fluttering—on May 4, 61 days after I first saw him.

Post-mortem Examination.—Body not much emaciated; no œdema; very pale.

Great enlargement of cervical glands at both sides of the neck, from mastoid process down to clavicle, some being as large as chesnuts; no matting together of tissues around the glands. Most of these when cut into are soft, and look white but natural; a few near the right ear are caseous either in their entire substance, or speckled with caseous material, but none are softened or contain pus.

The intra-thoracic glands in both anterior and posterior mediastinum and about the root of the lungs are greatly hypertrophied, as also those of the axilla, but are not caseous.

The pericardium is universally adherent to the heart by old adhesions, a band in the sulcus between the right auricle and ventricle being calcareous. Heart itself small; no valvular disease.

Pleuræ.—Left pleural cavity contained a pint and a half of turbid serum; soft recent lymph adhered to surface of pleura, covering left lung.

Left lung.—Numerous large patches of grey hepatisation in left lung; the solidified substance has in two places broken down into gangrenous cavities about the size of small walnuts; both contained a dark purulent material.

Right lung and pleura natural.

Liver not enlarged, but studded here and there with white semi-translucent nodules, miliary and smaller; surface not irregular.

Spleen large, weighs 1½lb.; is universally studded with irregularly-shaped nodules, similar to those in liver, but larger—a characteristic specimen of Hodgkins' disease.

Kidneys contained no new formations, but in both the cortex presented marked cloudy swelling.

Supra-renal capsules natural.

Stomach and intestines natural. Solitary glands in some parts appeared somewhat large.

Abdominal glands.—Those at hilus of liver and spleen, and about pancreas, also lumbar, all greatly enlarged, but not caseous.

Iliac and inguinal glands somewhat enlarged.

Pancreas and tonsils natural.

Placed side by side, for purposes of comparison, these two

typical examples of what was once called Hodgkins' disease afford many features of interest. Granted that the disease is one and the same in pathology, that in outward appearance the two patients resembled each other greatly, each presenting enlargements upon both sides of the neck, yet how very different were the clinical symptoms observed. The woman came in emaciated in an extreme degree; the man had doubtless lost flesh, but he was still fat, although flabby; the skin of the woman was dry and ferfuraceous, but her temperature was never high. The skin of the man was soft, velvety, and freely perspiring, and yet his temperature was constantly above 99°, and often maintained above 102°. She had repeated epileptic attacks; he never had one, but presented a peculiar delirium and strange mental condition throughout his illness.

Starting, then, from this foundation of two cases recognised and carefully observed during life, let us next take the records of other cases, to discover what clinical symptoms are common, and what we may regard as exceptional to this complaint. Then by a careful analysis of cases we shall endeavour to determine the average duration of this disease, its preliminary as well as its perfected symptoms, its most characteristic features; and finally we shall add some remarks upon its nature and pathology, and upon the treatment likely to be found most profitable in its course and progress.

CASE III. (From *Path. Trans.* vol. xix. p. 401.)

E. O., youth æt. 18, under care of Dr. Sibson; always weakly; ill for three months, with dull aching pain in lower part of abdomen, which extended down the back of his legs, and was increased by pressure in the hypogastrium. He had a tumour on left iliac region of some size, but not itself painful. Subsequently the left leg became swollen from hip to toes, the skin generally jaundiced, and a systolic murmur was audible at heart's apex. Copious epistaxis occurred once. Patient became extremely weak, and lapsed into a comatose condition before death. Total recorded duration of case, nearly five months. The liver presented small yellow tumours, which were scattered through its substance, and appeared as nodules upon its surface. A large mass of enlarged lymphatics occupied the under surface of the liver, and pressed upon the bile-duct.

The spleen was large and hard, had projecting yellow *masses upon its* surface, and on section was seen mottled with

white masses, soft, not crumbling. A mass of enlarged glands were attached to vessels at its hilus.

The abdominal tumour consisted of enlarged glands, which surrounded left common iliac vessels, and passing upwards round aorta and inferior vena cava, ended abruptly about the level of the upper extremity of the kidneys, though attached to the groups of glands in connection with liver, pancreas and spleen.

The substance of the glands was tough, appearance on section yellowish, but somewhat translucent. The large gland in groin presented one patch of caseous softening.

Microscopical Appearances.—'The minute structure of the glands was by no means uniform. The yellow substance of the glands' (yellow because of the jaundice observed during life) 'was divided by white fibrous partitions.' These yellow or follicular portions were occupied by cell-like masses of very irregular form, and having dark granular contents.*

The cells were three to four times the diameter of lymph corpuscles; some larger, and these contained many nuclei.

In the larger glands (a later stage of the disease) the general structures were the same, but the irregular cells were smaller, and the fibro-nucleated tissue predominated. The structure of the largest glands was obscured by presence of some amorphous material.

CASE IV. (By Dr. CHURCH, *Path. Trans.* vol. xx. p. 377.)

A sallow cachectic woman, æt. 51. Lymphoma of the mesentery, forming an elongated tumour. No other glands enlarged. Spleen unusually small.

Symptoms during Life. — Abdominal spasms; ascites, for which paracentesis was performed. Extensive pleuritic effusion on left side. Chronic peritonitis; general cachexia; pleurisy, with effusion.

CASE V. (Communicated by Dr. MOXON, *Path. Trans.* vol. xx. p. 370.)

A man, æt. 61, was admitted into Guy's Hospital, for enlarged glands in the neck. As the man was well nourished,

* These large-sized cells are thus described by Virchow, 'Krank. Geschwülste,' Band ii. p. 31:—'Aber nicht selten nimmt die Grösse der Zellen so zu, dass sie grösseren Schleimkörperchen ähnlicher werden. Auch vernehmen sich gelegentlich die Kerne und man findet vielkernige Elemente von ausgezeichneter Deutlichkeit, in seltenen Fällen auch wahre Riesenzellen.'

had good health, and no sign of disease in other organs was discovered, an operation was undertaken for their removal. The extensive nature of the disease was revealed in the course of the operation, which was followed by œdema of the glottis, and the death of the patient within twenty-four hours.

The cervical glands had attained six or eight times their natural dimensions. Bronchial and mediastinal glands were similarly affected. The lung was implicated to the depth of an inch—an infection apparently by contiguity. 'The visceral glands, lumbar and iliac, were in the same state of enlargement, but the axillary and inguinal glands were free.'

The tonsils.—The left swollen to five or six times natural size.

Spleen, weighing twenty-four ounces; its section exactly resembling that figured by Virchow as lympho-sarcoma of the spleen.

CASE VI. (Dr. MURCHISON'S, communicated to Pathological Society, Nov. 3, 1868. *Path. Trans.* vol. xx. p. 192.)

A pale emaciated-looking shopman, æt. 24. Anasarca of both legs; some ascites; tumour obscurely felt through the abdominal parietes in region of umbilicus.

Chief Symptoms during Life.—Habitual pain across the abdomen; vomiting, wasting, with night-sweats. Slight cough, but much dyspnœa. No fever, but skin dry; temp. 98°. No appetite; much thirst; bowels regular; urine pale, clear, and without albumen. 'Two days after admission into the Middlesex Hospital he had a convulsive attack in the night, lasting about ten minutes, and followed by delirium; nine hours later his breathing became laboured, eyes fixed, and he appeared unconscious. Two hours later he died.' The tumour consisted of greatly enlarged mesenteric glands, with enormous thickening of the coats of the duodenum and upper part of the jejunum. At the thickest portions of the intestines the muscular coat was indistinguishable. Similar greyish white material, yielding milky juice upon section, was found extensively deposited in the subperitonæal tissues of the abdominal parietes, diaphragm, and fundus of bladder. Both liver and kidneys were studded with numerous similar white deposits, which the microscope showed to be made up of nuclear tissue, containing clumps of corpuscles in loculi, out of which they could be moved by pencilling. 'Spheroidal corpuscles, held together by a transparent stroma.' The spleen in this case was not much enlarged, but

its Malpighian bodies were. There is no need for me to borrow more largely than I have done from Dr. Murchison's lucid description of his case, which is illustrated, in pages 194 and 196 of vol. xx. 'Path. Trans.' by very able drawings.

The case of this young man resembled that of Ellen Higginbottom in many particulars: in the wasting, the state of skin, frequent vomiting, and mode of death.

Case VII.

By Dr. Murchison again, entitled 'Lymphatic New Formations in the Liver, with Enlargement of the Spleen and Persistent Jaundice.' The subject of this case was an emaciated female child, æt. 12. She had been ill for nine months, suffering at first with rheumatic pains and swellings in her joints. Jaundice, sickness, and vomiting; paroxysms of fever, followed by profuse perspirations; boils and sore places all over the surface of her body.

The record of her temperature shows this to have been high, 101·25°. Liver and spleen were much enlarged; the former felt nodular and hard. Urine without albumen. Sp. gr. 1013.

Various swellings occurred upon the surface of the body, and erysipelatous inflammation, apparently of both eyelids, attended by delirium, a high temperature, 104°, and passing into gangrene, to which she succumbed.

Post-mortem Examination.—The liver weighed 36 ounces; was found nodulated, and studded with cream-coloured excrescences, about the size of hemp-seeds, immediately beneath its capsule; the fibrous tissue between the lobules was increased, and contained numerous 'deposits of rounded corpuscles or nuclei, very similar to rounded corpuscles' (p. 201). The yellow excrescences were made up of like nuclear material. The lymph-glands in fissure of liver were much enlarged, so as to have compressed and occluded the bile-duct.

The spleen weighed 10 ounces; its Malpighian bodies were largely developed; its appearance highly characteristic of Hodgkins' disease.

Case VIII.

(By Dr. Payne, *Path. Trans.* vol. xxii. p. 278.)

Charles S., æt. 10; ill eighteen months, ever since scarlet fever. Greatly emaciated and anæmic; spleen very large. White blood-cells, perhaps numerically increased, but not like blood of leucæmia. No marked enlargements of external

lymphatic glands. Temperature once recorded as 101° Fahr. Patient became gradually weaker, and died of exhaustion.

Post-mortem Examination.—'The lymphatic glands were notably affected, though not so much enlarged as they often are in this disease,' especially those which surrounded the left common carotid; these were continuous with the bronchial and mediastinal system, themselves similarly affected. Groups also observed in hilus of spleen, and around hepatic vessels. Very few of these glands were larger than a hazel-nut; some few of them were caseous.

The spleen was characteristic of Hodgkins' disease; both liver and right kidney contained a few minute yellow tumours. 'All these tumours presented the minute structure of lymphadenoma or lympho-sarcoma.'

Evidence of final acute tuberculosis was discovered in lungs and membranes of the brain.

Case IX.

(Recorded by Dr. Pye Smith in *Path. Trans.* vol. xxi. p. 390.)

A girl, æt. 17, under Dr. Habershon's care; remarkably anæmic, suffering with suppression of menses, constant diarrhœa, a remarkably high temperature, and finally a diphtheritic condition of the fauces and large intestine. The spleen (the only organ affected) weighed 12 ounces, was firm to touch, mottled, nodular, and presented patches of a lymphoid or adenoid growth scattered throughout its substance.

Case X. (Dr. Hodgkins' Cases.)

Male child, æt. 9. Duration of illness, nine months.

Symptoms.—Pain in back extending to the abdomen; ascites; some anasarca of lower part of body. Mode of death not described.

Post-mortem Examination.—Recent pleurisy, with effusion.

Recent peritonitis, with sero-purulent effusion.

Mesenteric glands generally enlarged, of semi-cartilaginous consistence, the largest attaining the size of a pigeon's egg.

Liver: surface uneven, generally normal-looking, but containing a few semi-cartilaginous tubercles.

Spleen large and similarly affected; absorbent glands about both these organs much enlarged.

A continuous chain of enlarged absorbent glands accompanying the aorta and iliac vessels down into pelvis.

Thoracic duct transparent and healthy.

Case XI.

E. K., male, æt. 10. Ill thirteen months; losing flesh, strength, and healthy look.

Symptoms.—Enlarged spleen and glandulæ concatenatæ on right and left side of neck enlarged; both glands and spleen fluctuated in size, were sometimes much smaller than at others. Ascites: œdema of scrotum. Mode of death not detailed.

Post-mortem Examination.—Old pleuritic adhesions; no lung disease; old and recent peritonitis.

Glands of neck bronchial and mediastinal; those too accompanying aorta, splenic artery, and iliacs enlarged, of firm cartilageous consistence, of light colour, and feeble vascularity; no appearance of softening or suppuration.

Liver normal; spleen enlarged to four times its true size; surface mammillated; substance thickly sprinkled with tubercles, in structure similar to enlarged glands.

Pancreas firm; glands along its upper edge greatly enlarged.

Case XII.

Thomas Weskett, æt. 50; plump but cachectic-looking. Duration of illness not stated. No exciting cause discovered.

Symptoms.—General enlargement of all the absorbent glands within reach of examination, especially those of axillæ and groins; a few of these a little larger than pigeons' eggs, others mostly smaller, smooth-surfaced, moderately firm to touch rather than indurated; one epididymis enlarged; no tumours of spleen or abdomen made out; brain functions disturbed. Death sudden.

Post-mortem Examination.—No morbid appearance in brain discovered.

The internal glands were just like the external, and all similar in aspect to those previously described.

Liver large and pale; spleen greatly enlarged; its colour lighter and redder than natural, its texture more firm and close; seen on section to be pervaded by white opaque spots; enlarged natural corpuscles; no distinct tubercles.

Case XIII.

A middle-aged man, long out of health, much emaciated; glands of neck, upper part of thyroid, much enlarged; those of groins and æxilla less so.

Symptoms.—Abdomen distended; final urgent chest symptoms; pleuro-pneumonia.

Post-mortem Examination.—Chronic peritonitis. Liver weighed 7lb.; acini manifestly enlarged, coloured, mottled, looking like fatty degeneration, but containing really but little fat. Spleen, four to five times normal size; texture solid; the cellular parenchyma more conspicuous than natural, appearing in form of specks in some parts.

Absorbent glands accompanying aorta enlarged to size of pullets' eggs; some injected with blood; blood, too, in receptaculum chyli; larger lymphatic branches filled with blood coagula.

Case XIV.

Thomas Black, æt. about 50; pale and emaciated. Duration of illness two years, dating from first notice of swelling of cervical glands; this attributed to exposure to cold.

Symptoms.—Progressive enlargement of axillary and inguinal glands; distension of abdomen; difficult breathing. Mode of death not recorded.

Post-mortem Examination.—The left side of neck and left axilla presented the largest tumours; these extended into the thorax, along the course of the carotid, axillary, and internal mammary arteries; also along aorta into posterior mediastinum, and downwards, accompanying iliac arteries.

Bronchial glands not affected.

Recent pleurisy, with serous effusion.

Chronic and more recent peritonitis; omentum corrugated.

Liver: small, surface irregular, colour light, containing two or three white tubercles.

Spleen and pancreas and kidney not affected.

Description of the glands.—Of various sizes, from horse-bean to hen's egg, round or ovoid, but externally smooth; firm, pale, translucent, half as tough as cartilage when taken from the body, but becoming considerably softer by maceration in water.

This description, now oftentimes repeated, scarcely needs reiteration, but it stamps the cases most unmistakably.

Dr. Hodgkins' original remarks upon his cases are all most pertinent. He discusses the nature of the glandular hypertrophy as well as describes its character; notices the different grades of vitality in some of the enlargements, shown by certain of them sometimes becoming opaque and softening, although this is rare and exceptional to them; he perceives 'the close connection between the derangement of the glands and that of the spleen,' but thinks 'the latter a posterior *effect.*'

CASE XV. (Selected from Dr. WILKS' Cases, *Guy's Hospital Reports*, 1856, vol. ii. p. 115.)

J. P., æt. 10. Ill eighteen months with enlargement of abdomen, from a tumour that reached into pelvis.

Six months later extremely emaciated; he presented a row of enlarged glands under his jaw.

Mode of death not recorded. Liver: 11lb., surface smooth; upon section, like muscular fibre, cut across. Spleen: six times its natural size, studded with small light bodies. Lumbar glands greatly enlarged, firm, homogeneous, 'with nothing of fungoid or scrofulous appearance; some red, from ecchymosis, but most of them flesh-colour, with a yellow tinge.'

CASE XVI.

Thos. B., æt. 50; under Dr. Bright. Ill for two years, with large tumour in neck and groin. The post-mortem examination showed extension of the gland-enlargements into anterior and posterior mediastinum; ascites, considerable; liver nodulated. A large mass of tumours, formed by enlarged glands, surrounded the aorta in the abdomen; some were as large as eggs, all presented an uniform texture, were pale, and slightly transparent. Spleen healthy.

CASE XVII.

Lewis P., æt. 24. Intemperate; taken acutely ill, with febrile symptoms, after exposure to wet, which lasted for some time, and aroused suspicions of his having had intermittent fever. He became thinner and remarkably pale, like chlorosis; spleen could be felt below the ribs; the blood exhibited a marked excess of white cells. 'The only other symptom of organic disease was dulness and crepitation at apex of one lung.' Duration of illness, from commencement to death, four months and a half.

Post-mortem Examination.—Body spare, not much emaciated; chronic deposits at apices of both lungs. Lymphatic glands all enlarged, largest not greater than a walnut; the lumbar and posterior mediastinal were most affected, forming a chain of tumours on each side of aorta. Also a few glands found enlarged around vessels entering the liver and spleen. Neither the mesenteric, cervical, axillary, or inguinal systems affected.

Spleen weighed 1lb. 9oz., with white opaque deposits scattered through it. Liver and kidneys healthy.

Case XVIII.

J. S., boy, æt. 9. Ill for nine months with pain and abdominal enlargement, anasarca, and ascites. Died of dropsy and recent peritonitis. Post-mortem examination showed this to have been extensive. Lungs, a few tubercles at apices; spleen large, containing irregular ovoid-shaped bodies; kidneys mottled; liver pervaded by a few hard tubercles, somewhat larger than peas; lumbar, mesenteric, bronchial glands enlarged, some streaked with black matter; characteristic, however, of the disease.

Case XIX.

E. K., boy, æt. 10; under Dr. Bright. Ill for thirteen months with tumour in right hypochondrium, enlarged glands in neck, and wax-like aspect; he lived several weeks after first coming under observation. No other symptoms or mode of death recorded. The appearances of the disease under discussion were characteristic. Cervical, mediastinal, bronchial, mesenteric, and lumbar systems of glands were affected, also those vessels entering the spleen. Spleen four times natural size, pervaded by white opaque matter, 'very much as if tallow had been ejected into its cells and then cooled.'

Case XX.

Thos. V., æt. 50; under Dr. Addison. Duration of illness not stated. Symptoms: pallor and cachexia, with great enlargement of absorbent glands in neck, axillæ, and groins; some of these were the size of a pigeon's egg, and a few larger and smooth. Mode of death not recorded. The gland appearances were characteristic, a morbid hypertrophy. Spleen much enlarged; texture firm, and containing opaque white spots not thought to be tubercles.

Dr. Wilks, speaking, at p. 129, of the nature of this peculiar enlargement of the lymphatic glands, and of its frequent coincidence with disease of the spleen, says: 'There is, without doubt, a peculiar form of affection involving these organs, accompanied by an anæmic cachexia, prostration, and death.' Writing as he did, in 1856, he distinctly perceived the principal features and peculiarity of this complaint, and identifies it with that previously described by Dr. Hodgkins.

Rare no doubt it is; the examples of it that come into our

Hospital are few and far between; indeed those that I can lay my hand on as unmistakable specimens are so few, that I have been able to record in this paper nearly all that are thoroughly trustworthy. It has appeared to me to be a profitable task to bring them together and analyse them.

Out of a total of 20 cases, we find that 16 males and 4 females were affected. As to the influence of age upon the malady, the youngest subjects are nine years old.

At 9 years	.	.	2 are affected.
„ 10 „	.	.	4 „ „
9 to 15 years	.	.	8 cases occur.
15 to 25 „	.	.	3 „ „
25 to 35 „	.	.	2 „ „
35 to 45 „	.	.	0 „ „
45 to 55 „	.	.	6 „ „
55 to 65 „	.	.	1 „ „
Total	.	.	20 cases.

Two very different periods of life, therefore, furnish the largest contingent of cases, viz. that between 9 and 15 years and 45 and 55.

The duration of the illness is determined in 12 cases only out of the 20.

The shortest period appears to be 4½ months, the longest 3 years and 2 months.

The age at which the disease is developed appears to have little influence upon its duration. Out of 12 cases, 6 live over a year from the time of the first appearance of symptoms, and 6 die at some period short of 12 months.

If the total recorded months of illness be taken and divided by the number of cases, the mean average duration is seen to be between 14 and 15 months.

The pathological feature of the disease is the general glandular enlargement; and in one case only (No. VII.) out of the 20 is this either not present or not dwelt upon in the record. As to the system of glands affected, a tabular analysis of all the 20 cases affords much interesting information.

In	12	cases	out	of	20	the cervical glands are affected.
„	12	„	„	„	„	mesenteric glands „
„	10	„	„	„	„	mediastinal „ „
„	9	„	„	„	„	lumbar „ „
„	11	„	„	„	„	inguinal and iliac glands „

In one case only out of the 20 the spleen is noticed as unusually small; in three cases it appears wholly unaffected; it is extensively and peculiarly affected in 16 cases.

Quite independently of the formation of the glandular growths in them, the kidneys, in both the cases which I observed, presented a condition of acute parenchymatous nephritis, but no albumen was present in the urine when these cases first came under my care. This, therefore, I regard as quite a secondary pathological event, the consequence of failure of all the vital powers, and connected doubtless with the mode of death.

Let us examine next the symptoms and the mode of death.

Emaciation, cachexia, and very marked anæmia, are symptoms noticed in a very large proportion of cases.

In 10 out of the 20 cases emaciation and anæmia was extreme; 8 are described as of cachectic aspect, 2 are jaundiced.

In 7 cases some distinct abdominal tumour is made out during life; sometimes, perhaps, this may have been the enlarged spleen, though this is for the most part separately noticed; and, in 6 cases certainly, it consisted of glandular enlargements, mesenteric, lumbar, or omental. It is in consequence of these abdominal glandular enlargements that ascites, chronic, and acute peritonitis, occur as such frequent complications of the complaint.

Ascites, simple, in 6 cases; diarrhœa, with abdominal pain in 4; chronic peritonitis in 6; acute peritonitis, with flakes of recent lymph in 4.

A high temperature, with vomiting, general disturbance of digestive functions, and acute febrile manifestations, are incidental occurrences in the course of the disease, not always noticed because these cases are but rarely under observation all through their illness. Vomiting is noticed in 3 cases; high temperature also in 3; delirium in 4; epilepsy supervenes in 2 cases; 4 pass into a comatose condition before they die.

One case dies suddenly and apparently unexpectedly, but a large proportion exhibit some lung congestion or complication, and may be vouchsafed to have succumbed finally to thoracic complications. Ten of the cases had cough, hurried respirations, and dyspnœa; 4 presented recent pleuritic effusions; pleuro-pneumonia is recorded in 2 instances.

Remarks.

Leucæmia or leucocythæmia has been the generic or general term employed to comprehend all that class of diseases in

which lymphatic gland structures are hypertrophied, so as to form single or conglomerate tumours.

The term is ill-chosen, because it implies one particular feature of disease, an excess of white cells in the blood, as the common and abiding symptom. Now sometimes this is present, at others it is absent; but it is a symptom certainly not forthcoming in all the forms of disease which have been thus grouped together.

Remarkable anæmia may exist in an individual without there being any relative disproportion between the number of white to red blood-cells in his blood. Virchow, who in his 'Krank. Geschw.,' Band ii. 8, 728, describes these lymphatic hypertrophies under the designation of lympho-sarcomata, and who was clear in showing that this enlargement of glands might be quite independent of any leucæmia, made or described what he had observed—three forms of this leucæmic disease: a splenic, a lymphatic, and a mixed form in which both spleen and lymphatics are affected. His splenic form, in which the spleen was the single organ involved, is, he states, attended almost invariably by excess of white corpuscles in the blood, by frequently recurring epistaxis, and by other hæmorrhages, difficult to staunch and always upon slight provocation—application of leeches, lancet, tooth-drawing, and the like.

Two such cases have, in the course of my hospital practice, fallen under my observation. One occurred in a woman of 21 years. She had been ill for six months, was pale and thin, with glazed red tongue, thirst, and hective fever, and presented a hugely enlarged spleen, which caused her much aching pain by its weight and pressure. She felt sick and often vomited. For three years she had been subject to aches and pains about her joints, and to brow ague. Ascitis and pleuritic effusion showed themselves shortly after her admission to the Hospital; and, to relieve the pain in her left side, she was wet cupped. The gentleman who applied the cupping-glasses had the greatest difficulty in restraining the after bleeding, and the patient lost a great deal more blood than was either desired or intended. The tumour was diminished in size by this blood loss, and indeed was found to vary pretty considerably in dimensions according to any drain made upon her system; diminishing if she had either vomited excessively or been purged much, as she often was. Later on, both lungs became the seat of a low form of pleuro-pneumonia towards their bases, and her breathing became very short. She now suffered with a pretty copious hæmoptysis; shortly afterwards she left the Hospital, as I believe, to die. I heard no more of her.

A youth of 23 is the only other example of this form of the disease of which I possess accurate records. He was a photographer from Exeter, and came under my observation in September 1871. He was very anæmic-looking and much emaciated in the face and upper parts of his body, but his legs were anasarcous; his spleen was highly enlarged; its edge could be felt to the right of the umbilicus, and quite low down in the left flank; its surface felt smooth. His blood, which I examined on several occasions, exhibited considerable relative increase of white to red corpuscles. No other glandular enlargements were to be felt.

General Condition and Functions.—Appetite fair; bowels regular; urine pale and containing no albumen; tongue pale; respiration 20, temperature 100·6°; no abnormal sounds in heart or lungs.

History.—Has been ill for three years with languor and depression. For at least two years has noticed that his abdomen was larger and fuller than was natural to him. About a year ago he had frequent attacks of giddiness; he used to fall down in faints quite suddenly, without any previous warning, but never, he thought, remained unconscious for more than two minutes. These seizures happened as frequently as two or three times daily; he was never drowsy after them. The last attack of this kind he had nine months ago. His principal symptoms during the past nine months have been general weakness, shortness of breath, occasional palpitations of the heart, attacks of diarrhœa, and such a sallow look as to have excited the remarks and commiseration of his friends.

He was placed upon a full meat diet with four ounces of wine, and ordered a draught containing two grains of quinine and five grains of iodide of potassium three times a day regularly.

At the end of a fortnight symptoms of thrombosis were manifested in the left saphena vein, and the plugging appeared quickly to extend into the left femoral. The quinine draught was suspended, and a simple saline mixture with nitre and digitalis substituted for it. There was some little febrile disturbance; the whole of the left leg became tense and œdematous, and there was a good deal of aching pain in it as well as tenderness. A few days later a pleuritic friction sound was developed in the left lateral thoracic region, and the right leg also became affected similarly to the left, with tenderness and cord-like plugging in the course of the femoral vein, and *general tense* anasarca of the whole limb.

Both legs at first were poulticed, and afterwards swathed in flannel bandages.

The febrile symptoms gradually abated, collateral circulation became established, his appetite returned; and although the legs still continued to be slightly anasarcous, he was able to bear his weight upon them, and to go down into the square daily for a little while.

When he had been under my care for two months, he desired to be discharged, and returned home.

The spleen was not at all altered in size, and his general condition was much as when he had first come under my observation.

Eight months later, three years and nine months from the commencement of his illness, I heard of his death from his father. The only particulars communicated to me were, that his appetite fell off, that he became weaker, and gradually sank, retaining his faculties to the last.

Unfortunately no post-mortem examination was permitted.

Virchow says that two stages of the splenic form can be distinguished: an early one, in which the whole organ is softer, larger, and is really fuller of corpuscular elements, when the normal splenic elements, Malpighian cells, &c., are merely hypertrophied; and a later one, when heteroplastic lymphomatous new growths spring up in the spleen, and this becomes harder to the feel, in consequence of an increase of fine reticular stroma tissue between the follicular elements.

What Professor Virchow thus announces of the splenic variety will, I believe, hold good with the pure lymphatic as well as the mixed form of the disease; the former term applying to those cases in which lymph-glands alone are implicated, or formed where they were previously only potentially existent; whereas the latter, the mixed, is reserved for cases in which both lymph-glands and the spleen are affected together.

I mean that to every case there is both an early and a late stage—a stage of follicular activity, in which the corpuscular elements of the glands multiply and develope; furnish an abundant milky juice when cut and squeezed, and attended by acute febrile sympathetic disturbance, anorexia and vomiting; and a late stage of interstitial stroma increase, when the inter-follicular elements, at first rich in nuclei, loose and delicate in structure, afterwards increase in toughness, develope and fibrillate, forming that trabecular framework which perfects the gland-like tumour. Thus the hard and soft forms of lympho-sarcoma which Professor Virchow differentiates

(p. 731) may be really only early and late stages of the same pathological process.

In the softer forms the loculi filled with cells, and nuclei in various stages of development, form the principal substrata of the gland growth. In the harder forms the inter-follicular connective tissue, network, and framework forming the septa, comes to constitute the principal mass of the enlarged gland, which acquires a sclerotic hardness.

Those, I think, who contend against the existence of the three forms of the disease, as described by Virchow, do not dispute the facts but the interpretation of them, as to whether they are rightly or wrongly classified together. But if diseases are to be classified upon a pathological basis at all, who could disallow the kinship to be found here?

Call it Hodgkins' disease, adenic, lympho-sarcoma, leucadenoid auxesis, or by whatever term you will, the fact remains that it is a complaint which requires careful clinical study for its appointment, apart from scrofulous, tuberculous, or cancerous disease of the glands. I need not waste time in describing a complaint which has been over and over again attempted by pens more graphic than my own. Trousseau, who usually hits a likeness with a master hand, says: 'The disease consists in a simple hypertrophy of the deep as well as the superficial lymphatic glands; it is accompanied sometimes by simple hypertrophy of the spleen or liver.'* Now this hypertrophy, when discovered in the glands of the neck, as in the two cases we have ourselves described, is peculiar; the individual glands first enlarge and are soft, then grow firmer, but do not indurate like cancerous, nor become boggy and huge like scrofulous glands. The individual glands attain no great size, but they come to exert pressure upon neighbouring parts; they may compress veins, perhaps arteries, certainly bile-ducts; they are painless, or nearly so; ache merely from their weight; they extend by a species of infection, and there appears an almost cancerous malignity in the manner in which they spread. Is it a gland in the neck or mediastinum which begins the offence, then those that are nearest in the lymph-current shortly follow suit.

Thus the disease extends from gland to gland, but these neither suppurate, nor do they usually casify, except upon some accident of nutrition through pressure upon and arrest of nutritional blood supplies. The final mass of glands,

* 'Clinique médicale,' tome iii. p. 555.

whether cervical or mediastinal, may attain very great size, and dislocate the thorax or abdominal organs considerably, but this by continuous development of new lymph-glands, not by the enormous hypertrophy of pre-existing ones.

A feature noticed about a great many cases is that their progress is irregular; at one time the disease seems in abeyance, or to progress but very little; then on a sudden, and without apparent cause, a terrible start is made; rapid increase in the gland-like new growths takes place, attended by a constantly maintained high temperature and acute febrile manifestations; and then it is that the symptoms, mental as well as corporeal, are peculiar. A great and incurable anæmia, to employ the words of Trousseau, is induced, and this sooner or later leads to fatal complications.

In this, as in most other diseases, there is probably a curable as well as an incurable stage. In the stage of intra-follicular lymph corpuscle proliferation, cure is perhaps possible; the disease may naturally suffer arrest at this time; but later on, when induration of the lymph-glands has set in, the progress towards death is made quick and easy; the body emaciates, the circulating fluids grow scantier, the juices dry up, the skin becomes like a withered leaf, and this although the appetite may be maintained and the individual seem less mortally ill than he really is.

Treatment.—The patient Webb, who with his high-maintained temperature proferred a distinct indication for treatment—namely, to be cooled if possible—was subjected upon more than one occasion to the tepid bath; he was immersed in this at a temperature not higher than 96°, and this was gradually cooled down to 75°.

The bath was generally followed by some relief; he slept more tranquilly after it; and if it had not been for the supervention of the lung symptoms, which finally terminated his life, they would have been more extensively employed.

I am strongly of opinion that a course of baths, or cold affusion, combined with the internal employment of iodine, as in the water furnished by the Woodhall Spa, might prove very beneficial in this first stage of the disease.

But after some such treatment has been fairly tried, the removal of the patient from the surrounding conditions of life under which the disease manifested itself appears to me an all-important measure.

It is impossible to tell what particular change is likely to be most beneficial. To the inhabitant of close, confined towns,

mountain air or sea air is generally indicated, but it is aston ishing how small a change in residence effects a total subversion of the ordinary habits of life. To live outside of a town instead of in it is often to change, not the purity only of the air supply, but the nature of the water and the quality of the food; and the very removal from the centre where a man has to perform his daily work may compel an hour's earlier rising in the morning, and just that much more exercise which is required for the healthy stimulation of his digestive organs.

When the second stage of the disease—the fleshy consolidation of the lymph-glands—is reached, these are no longer brought into that direct relation with the blood supply which enables them to perform glandular functions; at least one very important function of the lymph-gland must be impaired—its property of abstracting watery fluid from the blood. Hence the blood in the veins becomes thinner than it should be; and whereas normally its specific gravity in the veins should be in excess of that contained in the arteries, this condition will be altered, if not reversed.

Here, then, the condition of poverty of the blood, especially thinness or lack of density in that which occupies the venous system, will be presented—a condition which we know favours the establishment of dropsy; and ascites we find to be the symptom almost invariable to this stage of the disease.

Indeed, it is this watery condition of the blood which finally determines pleuritic effusion, œdema of the lung, or parenchymatous nephritis, one or all of which appear the usual modes in which death is approached in these cases.

Article III.—*A Case of Sclerema.*

By Norman Moore, M.B.

Valleix,* who has written the best general account of it, thus defines sclerema: 'A disease characterised by hardness, and immobility of the skin, with or without alteration of its colour, and without marked disturbance of function in other organs.'

Lorry,† in a chapter on several varieties of hardness of the skin, published in 1777, shows that he was acquainted with

* 'Guide du médecin practicien.' Paris, 1853, vol. v. p. 318.

† 'Tractatus de morbis cutaneis.' Paris, 1777, Pt. ii. art. 1.

the disease. This is the earliest notice of sclerema. It is too brief to be called a description. Dr. Ravel * and Dr. Hilton Fagge † have written at length on the records of sclerema. Several cases have been observed on the Continent, but the following is, I think, the first in England. It came under my observation at the Children's Hospital. The patient was a sturdy light-haired boy, aged two years and a half. As he stood before me I touched him on the cheek with one finger, and was astonished to find that his face was hard.

March 4, 1873.—*History:* Three months ago his parents noticed that his face was full, and on feeling it, found it hard. His legs and arms they afterwards found hard, and thought it a sign of strength. The hardness continuing, they became alarmed, and it is on account of it that they have brought the boy to the hospital. His mother says that he had measles and whooping-cough together, and that he only recovered from the illness six months ago. She says that he is lively and active by day, and somewhat restless at night. He eats well, and does not seem to her in any way distressed.

Condition: He has a smiling face, with a pink and white complexion. His cheeks are full and tense. They resist the finger like a well-stuffed cushion. They do not pit on pressure. The nose is as tough as the cheeks. The arms and legs are no less hard. On the shoulder and back there is hardness, but over the upper part of the chest and axillary fold the skin is natural. Both palms and soles are somewhat indurated, but on the backs of the hands and feet there is only slight hardness. Over the loins and hips the skin is hard, but on the outer side of the thigh in its upper third it feels less dense. His mother says that his belly has been hard. It is not so now. Wherever the skin is hard it is also incapable of being pinched up, or moved on the subjacent structures. He moves his jaws and limbs freely. Tongue not hard, moist, clean. Fauces and gums, normal. Tonsils, not enlarged. Chest: breathing sounds normal. The condition of skin affects the percussion note, giving it a drum-like sound. Heart: sounds normal. Urine: sp. gr. 1028; no albumen, in no way abnormal. The spleen is not enlarged, and there are no glandular enlargements.

March 11.—His cheeks are as hard as before. The scalp is very hard, especially near a healing wound, the result of a fall. His ears are not hard. His arms are as hard as before.

* 'Journal des connaissances médico-chirurgicales,' Nov. and Dec. 1843.

† 'Guy's Hospital Reports,' 1867.

He moves them every way without difficulty. His back is extremely hard, and the hardness seems greatest around a healing wound on the left shoulder. There is equal denseness around two other small wounds, one on the back of the neck and one on the right calf. These wounds are from cat-scratches, and are said to have been a long time in healing. The right leg is harder than the left. The lower half of the left thigh feels somewhat tough, but is not thoroughly indurated. The upper half is harder, but is less hard than the right thigh. The belly is unaffected. There is no pitting on pressure. The skin, where hard, feels cold, but the temperature under the arm is 98·5°. Tongue, not hard, clean. Chest and heart, nothing abnormal. Pulse 100, regular. The hardness of the skin makes it difficult to count the pulse at the wrist.

March 14.—General hardness unchanged. Forehead hard, ears not so. The skin part of both lips is somewhat hard, that of the upper most so. His legs, where least hard, feel as if made of solid india-rubber. The hardest parts are the back and the scalp. The belly is not at all hard. Tongue: not hard, clean. Pulse 88. Temperature 98·9°. The skin feels cool. His mother says that he eats well, runs about cheerily and, but for his skin, seems in health.

March 21.—The hardness is somewhat less in all parts. Pulse 90. Temperature 98·5°. He has had a slight attack of diarrhœa. He is very active, and eats and sleeps well.

April 15.—He looks in good health. His face, left leg and back, are less hard than before, but his arms feel very tough. The wounds are nearly healed. Around them there is great hardness.

May 6.—The cheeks feel dense, but as if with a soft superficial layer. The scalp is less hard, and the cut on it is well. The upper arms feel as if there was a hardness some depth below the skin. They are no longer thoroughly hard. The right is harder than the left. Below the elbow each arm is harder than above it. The back, loins, and legs are less hard. The skin feels cool, although it is a warm day. Temperature under arm 98·4°.

May 23.—Cheeks, chin, outer part of lips, forehead and scalp, all somewhat hard. External ear slightly hard, except the lobule, which is unaffected. Neck, brawny all round, least so in front. Slight toughness over the whole chest, none over belly. The arms feel as if made of india-rubber. The fore arms are harder than the upper arms. The upper part of the

back is harder than the lower part. Over the loins the toughness is but slight. In the legs there is some toughness in the feel of the skin, but no complete induration. And this toughness is greater below than above the knee. The cuts on the legs are healed. Chest, heart: nothing abnormal. He eats and sleeps well.

May 30.—There is slight brawniness about the back and arms, and a little about the cheeks, but it is only a trace of the former hardness. The legs are soft, even near a scratch. There is no change in his appearance.

June 6.—The skin generally has a slightly tough feel, as if made of soft leather. This is most marked in the fore arms, and in the middle of the back. There is no complete hardness. The skin is, as it has been throughout, of a natural colour. His general health is good.

June 17.—The skin generally feels more brawny than natural, but it can be pinched up a little everywhere. There is no pitting on pressure. He is otherwise quite well.

I have treated the case throughout with bark and cod liver oil.

The cases detailed in Barthez and Rilliet's* book on the diseases of children closely resemble this case. Two cases observed by Thirial,† one by Bouchut,‡ and one by Gillette,§ were like it in every important feature.

Observer	Date	Sex of Patient.	Age	Result
			Years	
Thirial	1847	Female	21	Unknown
Thirial	1847	Female	15½	Recovery
Bouchut	1847	Male	32	Recovery
Rilliet	1848	Female	9	Recovery
Rilliet	1848	Female	11	Recovery
Gillette	1854	Female	8½	Recovery
Moore	1873	Male	2½	Recovery

The duration of the disease in Rilliet's first case was about a year, in the second two years, in my own about ten months; in the remaining cases it was not ascertained.

These cases are individuals of one species. In all there was a general hardness of the skin, without albuminuria or other

* 'Traité des Maladies des Enfants.' Paris, 1853, vol. ii. p. 106.
† 'Union médicale,' Aug. 24 and 28, 1847.
‡ 'Gazette médicale de Paris,' Sept. 25, 1847.
§ 'Archives générales de Médecine.' Paris, 1854, Ser. v. vol. iv. p. 657.

constitutional disturbance. In all the skin was without discolouration. In Bouchut's a chill, after a sweat, seemed the exciting cause; in the rest the cause was obscure. In the last case the patient was the youngest on record.

Many more cases of sclerema are quoted by writers, and I have examined most of the original records. In many the observations are not sufficient to establish the species of disease. No specific description is worth anything which does not give sufficiently full particulars to distinguish the species described from every other. Following this principle, I have found but few cases of sclerema. A case of Henke's and one of Alibert's resemble cases of sclerema in many points. The notes are, however, incomplete. In the first albuminuria is not excluded. In the second the absolute obstruction of movement seems to point rather to the keloid of Addison than to sclerema. Dr. Hilton Fagge has shown that several cases quoted as of sclerema—or under its synonyms, scleriasis, scleroderma, sclerostenosis, chorionitis—are in reality examples of the keloid of Addison. Examples of several other diseases have been pressed by other writers, to swell the short list of cases of sclerema.

Ravel quotes Hippocrates, 'Epidemics,' Book V. The passage shows that a certain Athenian had indeed a dense skin, but the conclusion spoils the beginning. He took warm baths at Melos, which brought his skin to its normal condition, but he died shortly afterwards of a dropsy. When Diemerbroek * is referred to for the cases cited from his anatomical treatise, several examples are found of loss of sensibility, with hardness of skin, after prolonged exposure and want of food, but no particular except the hardness points to sclerema. Two sets of notes of Sir William Gull's, printed by Dr. Fagge, are altogether insufficient to establish the diagnosis of sclerema, and in both there was albuminuria. Forget,† who announces with some pomp that he has discovered a new disease, describes a condition which bears no resemblance to the cases of Thirial, Bouchut, Rilliet, and Gillette. Several writers seem to have considered any kind of hardness of the skin, with any accompanying conditions, enough to make a case of sclerema. It was several cases of this kind which led Valleix to say in his definition, 'with or without alteration of its colour.' I think that his definition might be made more precise and more complete, and sclerema thus defined: a disease characterised by hardness and immobility of the skin, without alteration of its

* Opera Omnia, Utrecht, 1685.

† 'Gazette médicale de Strasbourg,' June 1847.

colour, or of the epidermis, without pitting on pressure, and accompanied by no marked disturbance of function in other organs.

ARTICLE IV.—*A Short Account of some of the Principal Tumours removed at St. Bartholomew's Hospital during the Present Year, with some Remarks on the Growth of Fatty Tumours.* By HENRY TRENTHAM BUTLIN.

AMONGST the duties which fall to the lot of the surgical registrars is that of examining and reporting upon the microscopical characters of tumours removed in the operating theatre. Thinking that a short account of some of the principal of these might be interesting, I asked permission to write such an account for the 'Hospital Reports.'

But before doing so, it will be well to give an explanation of the sense in which the word sarcoma is used in this paper.

Since its re-introduction by Virchow into the nomenclature of tumours, there have been strong objections raised against it. And not the least important of these is, that it was formerly used in a slightly different sense from that to which it is applied at present. But, however ill-judged its use may have been on that account, it has advantages which appear to outbalance its disadvantages. And one great benefit undoubtedly is, that it gives a single and easily remembered name to those tumours which were formerly called fibro-plastic, fibro-nucleated, fibro-cellular, recurrent fibroid, and by a host of other similar names.

To the student studying a work on tumours, it was most disheartening, after wading through the divisions of innocent and malignant tumours, at the end of these to find himself face to face with the so-called semi-malignant tumours, which, by reason of the multiplicity of their names, and the absence of sufficiently definite descriptions of them, were more difficult to grasp than even the malignant tumours.

It might have been with a view to grouping these semi-malignant tumours under one heading that Virchow revived the name sarcoma. But casting aside the old division into innocent and malignant, and desiring to form an anatomical classification, the structure of these growths was found to be common, under slight modifications, with that of numerous other growths totally dissimilar in clinical characters. And

thus probably it was that the group sarcoma increased in bulk, until it included so many varieties that it has been said it would be impossible for the distinguished pathologist to write a chapter on carcinoma, as the subject has been already exhausted in the chapter on sarcoma.

Nevertheless, the word is retained even by those who object to a classification on an anatomical basis. And by all its force appears most to be felt when it is applied to tumours of the recurrent fibroid stamp, which both anatomically and clinically possess certain characters resembling those of carcinoma, but which are yet, in the more typical examples, sufficiently different to entitle them to a separate name.

Give to them the name of sarcoma, and, reserving the name of carcinoma for the typical hard and soft cancers, place both groups under the general division, cancer—as is now frequently done—and the subject is essentially simplified. The typical examples of each class are very different, but the two classes fade gradually into each other, until it is difficult to say to which class a certain tumour belongs.

The same thing occurs often in the nomenclature of medicine and surgery. Take, for instance, croup and diphtheria, typical cases of which are exceedingly different, whilst other cases are found in which it is impossible to say whether the disease should be called croup or diphtheria.

If asked to define the difference between carcinoma and sarcoma, a carcinoma is a tumour containing cells of an epithelial type lying closely together without inter-cellular substance in the meshes of a more or less fine fibrous network; whilst a sarcoma is a tumour consisting of vast numbers of cells, round, oval, spindle, &c., imbedded in a homogeneous or granular inter-cellular substance, and not having any fibrous network. Other tumours are found like that described in this volume by Mr. Symons, whose anatomical and general characters lie midway between these two. And to these the general name of cancer may with the greatest propriety be given. But whether they are further called carcinoma or sarcoma is in each case a matter of opinion and of perfect indifference. For although Thiersch, Billroth, and others have attempted to show that the two forms are derived from the descendants of two distinct germinal layers, and that those structures which produce the one cannot produce the other, their theory is at present without proof, and appears likely to remain so.

As examples of the two classes may be taken two cases of

cancer of the bladder, the first of which occurred in a man, æt. 57, under Mr. Holden's care at the beginning of the year, the second in a child two years old, under the care of Mr. Marsh, at the Hospital for Sick Children, during the time that I was registrar there. In the man the disease had existed for some six or eight months, and the autopsy showed several large masses of soft carcinoma in the bladder, with considerable secondary disease of the lumbar glands, and secondary nodules in the liver. The microscope showed large irregularly-shaped cells furnished with one or more nucleolated nuclei, lying in the meshes of an irregular fibrous network. In the child the disease had existed for more than a year, fleshy masses had protruded from the vagina, had been removed or fallen off, and had grown again. And after death the bladder was full of soft villous growths, having the ordinary dendritic characters, but there was no secondary implication either of the abdominal glands or of any of the internal organs. The microscopical characters were in one point especially worthy of note. All the growths examined were composed of cells imbedded in a finely granular basis substance, no fibrous meshwork being present. But, whilst in those growths examined during the lifetime of the child the cells were almost all small round cells, and scarcely any fibro-cells were present, in those growths examined after death (a few months later) the reverse was the case, by far the majority of the cells being spindle-shaped.

Both of these cases were cases of cancer, but their great difference entitled them to separate names. And the first is a soft carcinoma of the bladder, the second a round- or spindle-celled sarcoma.

To the student it is a simple matter to learn that a sarcoma is a growth having such and such anatomical characters, having a tendency to recur in sitû, not generally affecting lymphatic glands, but not uncommonly appearing in distant organs.

As a contrast, let the question be asked, What are the characters of a fibro-nucleated tumour, and describe the differences between a fibro-nucleated, a fibro-plastic, a fibro-cellular, and a recurrent fibroid tumour?

However ill-chosen the name sarcoma may have been in some respects, the rapid application of it to tumours of the above class shows how much a collective name was required for all these growths. And, until some much more appropriate and less objectionable term has been suggested, it appears not improbable that it will continue to be used.

On the Manner of Growth of Fatty Tumours.

Several fatty tumours removed about the beginning of the year afforded a good opportunity for studying the growth of these tumours. Some sections of them were mounted in Canada balsam, others in glycerine; but the former were far better, inasmuch as they were clearer and more perfectly defined than the latter, which very quickly became clouded and almost useless.

I was not aware at that time that Professor Förster* and Von Wittich had already written upon the subject in Virchow's 'Archives.'† But as no English account appears to exist, perhaps the subject may still be of sufficient interest to find a place here.

If a section of a fatty tumour be compared with a section of the fat surrounding it, it will generally be noticed that the individual cells in the tumour are much larger than those in the ordinary adipose tissue, so that, even supposing the number of cells in each lobule to remain the same, the size of the lobule by means of this hypertrophy alone would be very considerably increased. But in addition to this there appears to be a new formation of fat-cells. A section of a fatty tumour in Canada balsam presents the appearance of a fine network, the contents of the cells having been rendered transparent, and their outlines therefore being sharply defined. The meshes of the network vary much in size and shape, the cells being sometimes altered and rendered polygonal by mutual pressure, whilst at other times they retain their rounded form. At the nodal points of the network, and where three or more cells touch each other, there is found sometimes scarcely even the slightest thickening in the cell walls. More usually, however, there is a small round nodule, the double outline forming the cell-walls widening out and enclosing sometimes a small nucleus, or more often some homogeneous or finely granular substance, in the centre of which may be frequently seen a capillary cut across. Examining other parts of the same section, the nodal points cease to deserve the name of points, for there are found triangular or polygonal spaces with incurved borders, and containing homogeneous or finely granular material, in which is sometimes a nucleus. And, further, in this material, where existing in larger quantity, may be seen a round transparent space of small size. And in the largest

* Virchow's 'Archives,' 1857, Bd. xii. s. 203.
† Ibid, 1856, Bd. ix. s. 194.

masses of the material sometimes there is a single transparent space of tolerable size, or perhaps two of less size.

And lastly, in another part of the section, one, two, or more small fat-cells are found, occupying what looks to have been the nodal point between the ordinary large cells of the tumour.

Such are the facts which may be easily seen in most sections of a growing lipoma. But I have not found what Professor Förster describes—namely, a collection of granules or molecules like oil-molecules, in the homogeneous material.

With these facts theory is comparatively easy.

At the nodal points—the points at which three or more cells come into contact—there would often seem to be under normal circumstances a very small quantity of protoplasm, sometimes nucleated, sometimes not so. Under the influence of that mysterious power to which the name of formative irritation is given, this protoplasm increases in quantity, and so a mass is formed having a triangular or quadrilateral shape. And in this, as soon as it has attained a sufficient size, fat is deposited or formed, and appears on section as a small round transparent space. Increase in size, both of the new fat-globule and of the protoplasm, seems to occur, or a second fat-globule may be found in the same mass of protoplasm. In either case, the growth of the protoplasm appears to be arrested after a certain bulk has been attained, but the growth of the fat-globule continues until the protoplasm forms for it only a thin cell wall, and there are seen one, two, or more cells at what was the nodal point between the original cells. Sufficient protoplasm is left, however, between these newly-formed cells to repeat the process, provided the 'irritation' still continue to work. And so the hyperplasia may be continued ad infinitum.

Thus the growth of fatty tumours seems to be a two-fold process—hypertrophy, or increase in size of already existing adipose cells; hyperplasia, or formation of new cells.

I. *Fibrous Tumour of the Lower Jaw, containing numerous bodies of uncertain nature.*

This tumour was removed by Mr. Holden from the interior of the right side of the lower jaw, just below the canine tooth. The patient was a girl, æt. 16, who had noticed a swelling for about a year. A portion of the outer wall of the jaw was cut away, and the tumour shelled out from a smooth-walled cavity in which it lay. It was about the size of a chesnut, enclosed in

a thin capsule, firm and inelastic, cutting with a gritty section, and splitting like a winter apple.

Microscopic sections of the tumour were very puzzling; for whilst the basis of the sections consisted of coarse fibrous tissue, large numbers of bodies were imbedded in this of varying size and shape, but generally large, and having smooth contours. Their refraction was bi-convex. They appeared to contain neither cells or nuclei, were uncoloured by the carmine solution, and were not altered by the addition of nitric or acetic acids, ether, water, or glycerine.

Their nature still remains uncertain. But the most probable solution is, that they were originally myeloid cells which had undergone calcareous or some analogous change.

II. *Scrofulous Glands lying between the left Breast and Armpit.*

On February 4 Mr. Savory removed a cluster of enlarged glands, in various stages of caseation, from midway between the left breast and the axilla of a woman, æt. 38. They had been noticed for about two years, and were stated to have moved their position lower down towards the breast. The general and microscopical characters were those common to scrofulous glands. But the chief point of interest lay in the fact that they were removed under the impression that the tumour was a scirrhous carcinoma. Although the position was not quite that of a carcinoma of the breast or of the axillary glands, the irregular shape of the mass, its almost stony hardness, its adherence to the subjacent structures, and its duration, led to the full belief that it was a small malignant tumour.

III. *Carcinoma of the Penis.*

Scirrhous carcinoma of the penis appears to be a rare disease; but the following case is a good example of a tumour having in its deeper parts the structure of scirrhus, whilst its superficial parts presented the structure of epithelioma.

On June 18 Mr. Callender removed the greater portion of the penis of a man, æt. 63, on account of a tumour in the corpus cavernosum, which caused great pain and difficulty in micturition. It had first appeared three years previously, as a small pimple behind the sulcus. Later a crack formed at this point; and gradually ulceration had extended around the penis behind the glans, and the body of the organ had become

affected. There was no glandular enlargement. The ulceration was similar in appearance to that connected with epithelioma. But in the penis behind the ulcers, there was a hard, dense mass as large as a chesnut, and presenting all the characters of a scirrhous carcinoma.

The microscopic characters corresponded with those seen with the naked eye; for whilst close to the surface columns of epithelial cells dipped deeply down into the submucous and other tissues, and in them were small and occasional cell-nests, the bulk of the tumour was most characteristic of scirrhus. The cavernous structure could be still distinguished, but the loculi were small, and in great part filled up with epithelioid cells; and the intervening parts were traversed by broad bands of coarse fibrous tissue, interlacing with each other in all directions, and mixed with cells of varying size and form, some small, and like leucocytes, others larger, with well-developed nuclei, and others again degenerating into granular masses.

The operation was performed merely as a palliative measure, and has thus far been most successful, for at present (July 29) there is no sign of recurrence or of glandular affection.

IV.–V. *Carcinoma of the Superior Maxilla.*

Two cases have occurred in the Hospital this year.

The one was under the care of Mr. Holden, who removed the front wall of the left superior maxilla, and scooped out from the interior of the bone a large mass of soft carcinoma. The patient was a man, æt. 56. The tumour had been noticed about six months. There was no glandular complication. Seven weeks after operation the patient was discharged with the wound healthily granulating, and with no sign of reappearance of the disease.

Sections of this tumour, examined with low powers, gave the impression that there were numerous follicles visible, such as are seen in certain adenoid polypi—follicles lined with cylindrical epithelium. But higher powers ($\frac{1}{5}$-in.) showed that these spaces were filled with immense quantities of cells, generally rounded or oval, of tolerably large size, and containing a large nucleus. The intermediate space between these follicular spaces was occupied by a stroma, bearing in parts a close resemblance to the tissue of lymphatic glands, but in other parts containing a considerable quantity of loose fibrous tissue, in whose meshes were fewer cells.

The other was the more interesting of the two tumours.

The woman from whom it was removed, æt. 53, had five years previously had the lower portion of the right superior maxilla taken away by Mr. Callender, on account of a fibrous tumour which grew from it, and which completely shelled out. There was no appearance of return of the tumour until October 1872, when she began to feel fulness of the face. From this time the growth increased rapidly, and when she came into the Hospital the right cheek was bulging outwards, she was deaf on the right ear, and the tumour could be felt and seen occupying the upper jaw-bone, and extending for some distance back over the soft palate. Owing to the pain caused by its presence, and the uncertainty as to its nature, it was decided in consultation to remove it. Accordingly, on April 28, Mr. Callender removed what remained of the upper jaw-bone, and a large mass of tumour. But it was discovered that the growth extended far back to the base of the skull, and that this portion of it could not be taken away without fear of considerable danger to the patient. The operation was therefore abandoned at this point, and the wound was closed. The patient made an excellent recovery, in spite of an attack of erysipelas of the face, and was discharged May 28, with no appearance of recurrence of the disease and with the glands unaffected. But a few weeks later, accounts were received stating that the tumour was again growing rapidly.

The portions removed consisted generally of a tough, firm substance, of a brownish-yellow colour, and not very vascular; and on section a semi-transparent substance and an opaque fawn-coloured tissue irregularly alternated with one another.

The miscroscopical characters were especially interesting, for whilst here and there a fibrous meshwork containing numerous nucleated cells, mostly of large size, was visible, the greater part of the sections showed an adenoid tissue, consisting of small follicles sparingly scattered in a basis of lymphatic tissue, the cells of which however were of large size, and contained very large dark nucleolated nuclei. Besides this there were patches of a tissue having the characters of hyaline cartilage, but with considerable cavities in which lay many large cells.

VI. *Recurrent Carcinoma of the Breast.*

This tumour, which at first sight appeared to be an ordinary example of carcinoma *in situ*, received a special interest from its microscopical characters.

In the early part of 1872 Mr. Holden removed the whole of the breast of a woman, æt. 34, for what upon examination proved to be an ordinary scirrhous carcinoma. In February 1873 the patient returned with several of the axillary glands enlarged and hard, and with a tumour growing close to the cornu of the scar of the former operation. This tumour was removed, together with a cluster of axillary glands. It lay surrounded by adipose tissue, raising the skin in front of it, and resting upon the muscle behind. It was of an oval shape, and flattened from before backwards. The long diameter was 1½ in., the depth ⅞ in. So far as was known, no gland tissue had been left at this point during the first operation, and certainly none in any considerable quantity.

When first examined, sections of the growth presented the ordinary appearances of a hard carcinoma, but one could not help noticing the breadth of the trabeculæ of coarse fibrous tissue which traversed the sections, and formed a network in the meshes of which the epithelioid cells were contained. So large a proportion of the whole mass of the tumour was made up of this fibrous tissue, that it could scarcely be imagined that the part in which the tumour grew could, alone, have supplied it as a framework; and, examining it more closely, it was found that what appeared to be coarse fibrous tissue was certainly not so in all parts, but that a large portion of it consisted of thin spindle-cells (fibro-cells), many of which were furnished with a well-marked nucleus.

The tumour might therefore be considered as a rare form of carcinoma.

But its structure is especially interesting in relation to one point. It has always been a matter of debate whether the stroma of a cancer is a new formation, or whether the cancer juice merely infiltrates the fibrous tissue of the structure in which it occurs. And opinion has always inclined strongly in the latter direction. But does not this tumour at least broadly hint that the stroma is not always the fibrous tissue of the part, so to speak, rarefied? For here is a mass of considerable size, having its origin in a tissue (adipose), in which there is normally very little of the fibrous element present; and yet this mass is furnished with an abundant stroma—a stroma consisting not of perfectly developed fibrillar tissue throughout, but of a mixture of fibrillar tissue, and of what is now generally considered to be an earlier stage in the development of fibrillar tissue. Nor can it be denied that this stroma is as essential to the complete structure of this tumour as are the cell-elements

which it contains. Neither of them alone is sufficient to constitute this cancer.

The epithelioid cells are undoubtedly derived from the former cells of the part. And the coarse, imperfectly-developed fibrous stroma is derived in like manner from the former connective tissue of the part. Each of these elements differ, too, from the parent tissue.

Therefore it would appear illogical to consider one of them as the element proper of the cancer, and to regard the other merely as a hypertrophy of the tissue from which it is derived.

Sarcomata.

The wards have been peculiarly rich in tumours to which, without any stretching of the term, the name Sarcoma may be applied. In Darker Ward, at one time, there were no less than three typical cases under Mr. Callender's care; but as one of them was brought before the Pathological Society, and an account of it will appear in the approaching volume of the 'Transactions,' only two of them will be mentioned here. Before describing the individual cases, there is one point which does not appear to have received notice elsewhere, and which is of great importance as regards the treatment of these tumours.

Removal of the tumour is the course generally adopted, and when this has been complete, and especially when a limb has been amputated, no return has taken place; or, if it has, it has been preceded by a long interval. But the completeness of the operation of mere removal of the tumour is often more apparent than real. For the growth often shells out easily from the structures in which it lies, and is further not uncommonly surrounded by a well-marked capsule. And now microscopical examination shows what the naked eye cannot perceive—namely, that this capsule and the connective tissue lying outside it are both the seat of a precisely similar new-growth to that composing the mass of the tumour. It is from this that recurrence *in situ* so frequently occurs. A case in point was brought before the Pathological Society during last session by Mr. Spencer Watson, in which obstinate recurrence of a small tumour was difficult to explain, from the fact that one or two of the tumours removed had completely shelled out. But the Morbid-growth Committee discovered, in the small quantity of apparently normal tissue attached to the external surface of one of these tumours, the same cell-tissue as the tumour itself consisted of, and so the difficulty was solved. The mere

removal of tumours of this class is therefore obviously not sufficient, but it is necessary to remove a broad layer of the surrounding tissue; and as a further precaution some strong caustic might, with advantage, be applied to the surface of the wound.

VII. *Large Spindle-celled Sarcoma, probably growing from the Fibula.*

On January 18 Mr. Callender amputated the thigh of a young man, æt. 20, who had an enormous tumour of the leg, which bore the ordinary characters of a soft cancer. It appeared to proceed from or to be closely connected with the fibula. Its duration was about five months, and its first appearance two months after a blow upon the leg. It had grown very rapidly, and had attained such a size that ulceration of the integument had taken place. But there was no glandular enlargement. The patient made a good recovery, and left the Hospital on April 19. News was received, however, that he died a few days after reaching home, and the cause of death was not known.

The microscopical characters of portions of the tumour were the same throughout—namely, spindle-cells, closely packed together, and often arranged in the form of trabeculæ, running in all directions, an astomosing and interlacing with one another. The cells varied much in size in different parts of the tumour. The basis substance consisted of a finely granular material, which was not present in large quantity. Here and there might be seen an occasional myeloid cell.

VIII. *Recurrent Sarcoma of the Thigh. Secondary Growths in Wall of Abdomen and in Pleura. Death.*

Lying in a bed not far from the last patient was a man, æt. 50, whose case was most interesting, but most hopeless in treatment. He was suffering from a large sarcoma of the left thigh. His history was, that five years previously his left foot had been removed by Sir James Paget on account of a 'colloid tumour' involving the second toe and the metatarsus. For three years after this he remained free from all disease, and then there appeared a tumour on the front of the thigh beneath the skin about the apex of Scarpa's triangle. This was removed by Mr. Callender in November 1871. It appeared to have no connection with the glands, and was described as a myxo-sarcoma. Recurrence soon took place at the same point,

and growths were removed by Mr. Callender and Mr. Baker in February and June 1872.

For the fourth time Mr. Callender operated in January 1873, removing a tumour about the size of an orange, and enclosed in a firm fibrous capsule, so that it appeared to be most thoroughly removed. The substance of this tumour was, in colour, consistence, and general appearance, exactly that of the interior of a very ripe magnum bonum plum, and there was a good deal of blood in its centre. At the same time there was also removed a small encapsuled growth, much firmer and more opaque, from the subcutaneous fat of the abdominal wall, just below the ensiform cartilage, which had been noticed only a few weeks previously. Examination of the fresh piece of the larger tumour gave numbers of large spindle-cells, together with a few round cells and free nuclei. Portions of the tumour put into chromic acid to harden gradually crumbled to pieces, so that no sections could be made from them. But the tumour of the abdomen hardened well, and its structure was found to consist of spindle and round cells with very little intercellular substance, and little or no fibrous stroma.

The tumour of the thigh recurred almost at once, and in less than three weeks after the operation a large fungous mass protruded above the surface of the surrounding skin. Electro-puncture was adopted, and repeated on several days, but on the eighth day there was severe hæmorrhage from the sloughing mass. This was controlled by application of perchloride of iron; and in April elastic bands were so fixed about the neck of the tumour as to gradually cut off a large portion of it.

On May 23 the patient died, having for a short time previously shown signs of pulmonary disease.

After death there were found growing in the right pleura large masses of a tolerably firm opaque white material, very similar in all respects to the tumour previously removed from the abdominal wall. The lung was considerably pressed upon by these. There was no malignant disease in the femoral, inguinal, or abdominal glands. The microscopical appearances did not essentially differ from those observed in the abdominal tumour.

IX. *Small prominent Sarcoma of the Shoulder, having the Naked-eye Characters of a Nævus.*

This was not the least interesting of the tumours submitted to examination, and for several reasons.

A child, æt. 15 months, was admitted into Lawrence Ward on May 9, with a tumour about the size of a walnut standing out prominently on the right shoulder. It was stated to be congenital, but to be somewhat rapidly increasing in size. It had a soft doughy feel, appeared to grow from the skin and subcutaneous tissue, and its surface was covered with ordinary nævoid skin, so that no doubt was felt as to its being a nævoid tumour.

The mother insisted on leaving the Hospital on May 11, but returned in great trouble on the 28th, saying that the tumour had been bleeding for three days.

The child was excessively blanched and weak, and blood was still flowing from the surface of the tumour, where there was a small slough. Mr. Willett at once examined it, and removed it bodily with the knife, cutting away the nævoid skin covering it. This was done under the impression that the bulk of the tumour was solid, which proved to be true, for the mass shelled out completely from what was described as a sort of capsule. Several vessels were ligatured; and, in spite of its loss of blood, the child recovered, and was discharged apparently well on June 15.

The skin covering the tumour was certainly affected with nævus, but the mass beneath was white, opaque, and compact. To the naked eye it showed neither empty nor blood-filled spaces. In consistence it resembled firm fat.

But the microscope did not discover any fat, for the sections consisted only of a dense mass of cells—round, oval, spindle-shaped, and often large and irregular in form—and furnished with more than a single nucleus. These lay for the most part close together, but a small quantity of granular intercellular substance was also visible. Here and there were irregular spaces which had probably contained blood, and which were lined with thin spindle-cells. But such spaces were of small size, and were generally little larger than the vessels in tumours of this nature.

Exceedingly interesting is the question of the relationship between this growth and the nævoid tissue with which it was connected.

As nothing certain can be said on this point, perhaps it will be better to leave it untouched. Looking at its anatomical structure, one would imagine that it would recur. Mr. Willett has, however, expressed to me his firm conviction that it will not return, for he tells me that some years ago Mr. Wormald removed a precisely similar tumour from the buttock of a

young girl, and although the patient remained for some considerable period under observation, there was not the slightest appearance of return of the growth, either *in situ* or elsewhere.

X. *Spindle-celled Sarcoma of the Buttock.*

This tumour was removed from the right buttock of a woman, æt. 61, where it stood prominently out from the surface of the skin, forming a dark-red flattened mass about four inches across, and about one inch high. Its surface had ulcerated and was scabbed over. It looked much like a melanotic cancer. The patient stated that she had always had 'a mole' at that spot, but that some few years ago the mole began to grow, and in the last two years had grown very rapidly, whilst lately its surface had ulcerated, and there had once or twice been bleeding from it.

There was no glandular enlargement, so far as could be made out.

Mr. Marsh removed the tumour on July 5, and with it a layer of the surrounding skin and adipose tissue, varying in thickness from $\frac{1}{4}$ to $\frac{1}{3}$ inch.

It was completely circumscribed and enclosed in a thin capsule, which separated it from the fat in which it lay. It was tolerably homogeneous throughout, cut like firm fat, was very juicy, of a dirty-white or yellowish colour, and semi-transparent. Here and there were red dots and streaks, showing the position of the vessels.

The juice examined chemically was found to contain a very small quantity of mucin, and a large quantity of albumen.

The microscopical characters of the tumour were typical of what Sir James Paget described as recurrent fibroid; and sections cut from different portions of the tumour showed broad trabeculæ of spindle-cells interlacing with one another, and occasionally enclosing small areas filled with round-celled tissue.

This tumour may be expected to recur, unless, as is hoped, the layer of fat removed with it be sufficiently broad to include the whole of newly-forming elements.

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EXPLANATION OF PLATE (No. I.).

i. Group of fat-cells, showing masses of protoplasm, lying between them.

ii. Tumour of lower jaw, containing bodies of uncertain nature. (Case I.)

iii. One of the bodies in the above tumour, more highly magnified.

iv. Spindle-celled sarcoma growing from fibula; sketch of section. (Case VII.)

v. Section of small recurrent scirrhous tumour of breast, showing trabeculæ of spindle or fibro-cells. (Case III.)

vi. From section of nævoid tumour removed from the shoulder of child. (Case IX.)

vii. Ditto, showing blood-channel.

viii. From section of tumour of superior maxilla (Mr. Callender's case), showing true carcinoma structure. (Case V.)

ix. Section of cancer of the penis, showing remains of gland tissue (Tubuli Seminiferi). (Case VI.)

x. Portion of the above more highly magnified, showing well-marked scirrhous structure.

ARTICLE V.—*A Case of severe Suicidal Wound of the Neck.* BY CHRISTOPHER S. JEAFFRESON.

WHILST house surgeon to the late Sir William Lawrence, I was on one occasion occupied with him in the wards performing some slight operation, when the porter suddenly summoned me to attend a case of cut throat. He seemed breathless and in a great hurry, so I asked Sir William's permission to go, when he looked at the porter and, with a lisp, asked in his usually dry manner, 'Is it a lady or a gentleman?' 'A lady, sir,' answered the porter. 'Then,' said Sir William, 'I think we had better finish what we are about; I apprehend no danger, for ladies rarely cut very deep!' Sir William was right upon that occasion, but that the rule has many exceptions all surgeons must be well aware, the case I am about to relate being a remarkable instance of this.

M. P., æt. 39, unmarried, a spare dark-complexioned woman, had charge of a large spirit-bar in Newcastle-on-Tyne. Usually of a cheerful disposition, she had of late shown symptoms of depression of spirits, and seemed fretful and unhappy without any apparent cause. More than once she had threatened to take her own life, but her friends thought her threats a joke, and never apprehended the sad catastrophe which occurred.

On Sunday July 6, about 1 P.M., some of her companions noticed that she had disappeared from her room, and some suspicious warnings found written on a slate led to a search being made for her. She was discovered in a small closet, standing in her night-dress; this was completely saturated with blood, as was also the floor for some distance round. When secured, there was found to be a large wound across the neck, and medical assistance was immediately summoned.

When I arrived, in conjunction with my friend and neighbour, Mr. Newton, I found the following state of affairs.

The patient was lying upon a sofa, blanched exsanguine, and very faint, but not insensible, the pulse being scarcely perceptible. A large wound about five inches in length crossed the neck, about half an inch below the upper part (or very nearly the middle) of the thyroid cartilage. This was completely divided, as was also a large portion of the front of the pharynx, which at this spot becomes narrower as it approaches the œsophagus. A finger could readily be inserted into it, but the back which lies in apposition with the spinal chord was undivided. The sterno-mastoidei were almost com-

pletely, the sterno-hyodei, thyro-hyodei, and omo-hyodei, completely divided. The carotids were bared by the knife, but not wounded, and the internal jugular veins, which lie somewhat behind the artery in this situation, were of course untouched. The superior thyroid arteries and veins, the mastoid branches of the carotid, some of the laryngeal arteries, and the anterior jugular veins, had been divided, and from these and numerous small vessels the hæmorrhage which was still continuing must have proceeded. None of the more important nerves had been divided.

The action of the muscles attached to the upper part of the thyroid cartilage, and of those indirectly influencing it through the thyro-hyoid membrane and ligaments, had drawn this portion high up out of sight; whilst those attached to the lower portion of the cartilage drew it as forcibly down, thus producing a wide interval between the several parts. The incision having taken a direction somewhat obliquely upwards, the section of the trachea seemed to face almost directly forwards, and a quantity of blood flowing over the orifice was drawn in at each inspiration.

Our first duty was to stop the hæmorrhage. This was easily accomplished by torsion and the application of cold compresses; and we next proceeded to rally our patient. A large-sized gum elastic catheter being passed into the stomach through the wound in the pharnyx, half a pint of brandy-and-water was injected into the stomach with marvellous effect, for the patient in a few moments rallied in strength, made signs that she wanted to write something, and rapidly covered a sheet of note-paper with remarks made in a clear legible hand. She complained of a distressing sensation of choking, and as blood and mucus were still being drawn into the trachea a large-sized tracheotomy-tube was introduced with much relief. All immediate danger to life seemed passed, and after expectorating a large quantity of bloody mucus, the patient became comparatively quiet and comfortable.

In the evening Mr. Newton and myself held a consultation as to the further treatment to be adopted. The first question to be decided was as to the mode of administering food. The wound in the pharnyx being so large, it was doubtful whether a tube, when introduced through the mouth, would not issue at the opening; and, again, the patient being anxious to die, the struggles which might ensue in forcing the tube through the mouth would be most exhausting and prejudicial to her chances of recovery; so it was finally decided to

continue to feed her through the aperture in the pharnyx, at all events for a time. The second question at issue was, as to making any attempts to bring the separated portions of the larynx into better position by sutures. This we decided to do, but found it quite impracticable, the strain upon the sutures being so great that they shortly gave way. The extreme outer angles of the wound were, however, united by one or two points of suture.

It will be unnecessary here to give detailed notes of the daily progress of the patient. During the first few days everything proceeded most satisfactorily; plenty of food was administered by the wound, the pulse never rose beyond 120, and this only at night, the respirations rarely exceeding 30 per minute. On the fourth day a great improvement was manifest; the patient was more cheerful than she had previously been, seemed to repent of her rash act, and expressed a desire to live. With her concurrence, then, it was determined to alter the mode of administering food; and with a view to giving the opening in the pharynx a better chance of healing, an ordinary stomach-pump tube was passed through the mouth into the stomach, and nourishment administered in this way. For two days, three meals a day were given after this fashion; but the difficulty of the operation, and the distress which it produced, led to its abandonment at the end of the second day, and a return to the old method, which was continued to the last.

On the sixth day, it was noted that suppuration was thoroughly established, and the wound had a healthy and granulating appearance; but a severe attack of diarrhœa at this period very much weakened the patient, and her slender store of strength was further severely tried by the constant efforts at expectorating the muco-purulent discharge which constantly accumulated in the larger bronchi.

On the twelfth day our hopes of saving the patient were stilll very great; for though in a very weak state, the wound had made rapid strides towards cicatrisation, the bronchial secretion had become perfectly healthy, nor were there any other pulmonary complications. Mentally she seemed much distressed at the probability of being constantly obliged to wear a laryngeal tube—a fact which had inadvertently been communicated to her by one of her attendants. She frequently wrote upon her slate that she would prefer death to such a condition.

The following day her strength, mental and bodily, completely gave way, and on July 20, fourteen days from the infliction of the injury, she died.

The case which I have just related presents many features of interest; in the first place from its rarity, and secondly from the many perils and risks through which the patient passed with safety for so long a period. Trifling wounds of the larynx and trachea occur pretty frequently in hospital practice, but the complete severing of the larynx and of a considerable portion of the pharynx is usually attended with such rapidly fatal results that there is rarely time to transport a patient to an hospital. This rapid fatality is not due to the fact of the larynx or pharynx per se being wounded, but to the hæmorrhage which must always accompany so extensive a wound of the neck, the carotids rarely escaping entirely uninjured. Hæmorrhage may prove fatal, although the larger vessels remain intact; the division of the superior thyroid, the laryngeal and mastoid arteries and veins, being quite sufficient to give rise to a fatal loss of blood. One great source of danger during the time that bleeding still continues is that a stream of it may be sucked into the trachea by the violent inspiratory efforts of the patient; immediate suffocation may be produced in this manner; indeed, it is not an unfrequent cause of death in these cases, and was a fertile source of danger in the one I have just narrated.*

One of the chief points that arose in the course of treatment was, as to the method of introducing food into the stomach. Most authorities strongly deprecate the introduction of a tube through the wound for this purpose, and unquestionably, in many cases where the wound is trifling, they rightly do so; but when such a large aperture exists as that described above, no great harm can come of passing a tube through it, at all events for a time, as there is but little tendency to heal, each act of deglutition separating the edges of the wound. When we come to consider the strict anatomical position and relation of the parts, the difficulties in the way of the pharynx healing are very great. One of the principal origins of the lower constrictor of the pharynx is from each side of the thyroid cartilage. When this is completely divided, a large aperture must of necessity be made into the bag of the pharynx, an aperture which must be much enlarged and dragged upon by the separation of the severed portions of the cartilage.

* The peculiar dangers of these severe wounds of the larynx and pharynx vary at different periods. In the first period we have hæmorrhage, suffocation. In the second broncho-pneumonia, erysipelas of wound, exhaustion from partial inanition, secondary hæmorrhage, suffocation. Third, non-union of trachea and pharynx, contractions and strictures of these tubes, the result of cicatrization.

The introduction of a tube through the nose or throat was in our case a matter of some difficulty. On each occasion that it was adopted it gave rise to severe paroxysms of coughing and retching; some of these were of so distressing a nature as to place the patient's life in jeopardy, and we did not think it right to risk life for the sake of complying with a rule of surgery which stands upon a basis of such limited experience.

On searching the records of surgery I can only find two cases in which the patients survived after complete division of the larynx and nearly complete division of the œsophagus. One is recorded by Dr. Gairdner of Edinburgh,* the other occurs in Hennen's 'Military Surgery.' Dr. Gairdner's case corresponds almost exactly with the one I have narrated. The incision being a little lower in the neck, the œsophagus was wounded instead of the pharynx. The difficulties encountered in this case coincided in every particular with those met with by ourselves, even to the necessity of dividing in a longitudinal direction the loose flap of skin which formed the lower boundary of the wound, and which was constantly obstructing the orifice of the trachea. Dr. Gairdner's case, when recovered, had to wear permanently a laryngeal tube, and had to be fed by a gum elastic tube introduced through a fistulous opening communicating with the œsophagus. In this way the patient lived for years, and remained fat and well. The fate of our patient, if she had survived a little longer, would, I doubt not, have been the same. It is just possible that the pharyngeal aperture might have healed, but from the very great separation and the general alteration in the shape and position of the two halves of the larynx, it is quite impossible that they could ever have become united. Nor should we overlook the dangers which must arise in the future should these parts have cicatrised, followed, as this process must inevitably have been, by such a narrowing of the natural passages as would in all probability have called for some operative interference, most likely the re-opening of both tubes below the seat of cicatrisation. It was, in point of fact, the dangers to be apprehended during the process of contraction and cicatrisation that determined us upon keeping the laryngeal and pharyngeal apertures constantly patent, and the danger of not doing so is confirmed by Dr. Gairdner's case. He says, when speaking of discontinuing the laryngeal tube, 'The contraction of the integuments went on so rapidly that by night the patient was in danger of suffocation, to prevent

* 'Edinburgh Med. and Surg. Journal,' vol. xvi.

which Mr. Gall was forced to introduce a piece of œsophagus tube of elastic gum into his windpipe. It was always found necessary afterwards to have a tube there, for a recurrence of the same obstruction and danger was the inevitable consequence of its omission, even for a few hours.'

I think, then, with regard to the mode of feeding, our choice should in these cases be determined in great measure by the size of the pharyngeal and œsophageal aperture. If it is of so large a size as to lead one to fear that the cicatrisation necessary to healing will produce such an amount of narrowing of the gullet as to prevent or seriously interfere with deglutition, we must feed by the wound; if not, we must endeavour to feed by means of a tube introduced through the nose or mouth. This will be a difficult task, prolonged, as the introduction must of necessity be, over a period of several weeks; nor must we omit to mention that this difficulty is materially increased in these cases by the existence of a peculiar hyperæsthesia of the upper part of the larnyx and epiglottis, which makes these parts very intolerant of the elastic tube touching or passing in proximity to them.

In this case we did not notice that intolerant thirst which has sometimes been observed under similar circumstances. But, in a physiological point of view, it was interesting to note that whenever food was injected into the stomach, the amount of saliva and mucus from the mouth was considerably increased, and commenced immediately to flow through the wound in the pharnyx.

I must, in conclusion, remark that the cause of death was not referable to any of the more immediate effects of the wound. The patient had passed beyond the period of greatest danger, the wound granulating and healing favourably, when sudden prostration of the vital powers seemed to overtake her. With a free laryngeal aperture, no more bronchial irritation than could naturally be expected, with means of taking food—and I may add, having taken large quantities of nutriment—there seemed no insuperable obstacle to her recovery, and I firmly believe this would have taken place but for her despondency and depressed state of mind. At one period she seemed to have regained her usual state of mind, and seemed herself anxious to recover; but latterly – having realised the fearful nature of her wounds, and having learnt from her attendants that there was a possibility of having always to breathe and to be fed by means of tubes—she lost heart, and seemed, as it were, determined to die.

One circumstance which attracted the attention of Dr. Newton and myself was the rapid and extreme emaciation that ensued, in spite of the large quantity of nourishing food that was administered and apparently digested. The appearance of the body after death was that of a person who had died of inanition. Up to the last she was calm and collected, and retained her mental powers.

ARTICLE VI.—*Case of Abscess in the Brain. Pus let out by the Trephine. Complete Recovery.* By LUTHER HOLDEN.

JAMES CARR, æt. 18, was amusing himself with a fellow-apprentice by putting into the fire an iron bottle filled with water and firmly stopped by a copper plug. In a few minutes the bottle burst with a loud report, and a fragment of it struck him on the left side of the head. He was stunned, but not rendered insensible, by the blow; for 'he remembers being put into a van, and, with the assistance of two men, walking up the steps of St. Bartholomew's Hospital,' into which he was admitted very soon after the accident, on July 18, 1871.

On examination, we found a lacerated and contused wound of the scalp about three inches and a half long, situated over the front part of the left parietal bone, and extending forwards over the frontal, nearly in the line of the temporal ridge. There was a fracture in the same direction, and apparently to the same extent, through these bones, with a slight depression of the lower fragment. Small portions of brain substance were escaping through the wound. His general symptoms were not commensurate with the gravity of the injury. He lay on his side, fairly sensible, with a normal pulse, feeling sick, and vomiting occasionally. In the afternoon he spoke a few words to his father and to another person who came to see him.

Five grains of calomel and some house physic were given to him. The left side of the head to be shaved, and cold-water dressing to the wound.

July 19.—Continues sensible, but is very drowsy. Bowels freely open. Pulse 60. Continued sickness.

20.—Sickness diminishing. Wound beginning to suppurate. Conversed with a friend.

27.—He has improved in all respects so rapidly that he

begins to read the newspaper, and expresses a desire to leave the Hospital. He wonders why we do not permit him to be an out-patient. Wound poulticed, and gradually healing.

Sept. 7.—At his urgent request, he is permitted to leave the Hospital and be an out-patient, with instructions to come and see us from time to time in Colston Ward. The wound is nearly healed except at a small point, from which a small discharge issues. His general health seems to be good. There is no apparent loss of intellectual power, or any muscular paralysis. The only present manifest result of the injury is deafness of the left ear.

After leaving the Hospital he went to the Convalescent Home at Woodford for a fortnight, and then to another Home at Walton-on-Thames for two months. He states that, during his stay in these 'Homes,' 'five pieces of bone came from his head, one piece being $1\frac{1}{2}$ of an inch long, $\frac{3}{8}$ of an inch wide, and about the thickness of a fourpenny-piece; the other pieces were merely splinters.'

In January 1872—that is, in about five months after the accident—he resumed his work as a coppersmith on what is termed in the trade 'three-quarter time.' He continued at work until July, feeling very well with the exception of 'some curious sounds at times in his head.'

July 27.—Walking home in the dusk of the evening he had the misfortune to fall down the cellar of a public-house, the brewers having neglected to close the trap after lowering the beer. He states that 'he fell on his heels and then upon the back of his head and shoulders; that he was able to walk home, a distance of some forty yards; that he felt very stiff the next day in the left thigh and arm; and that two days after the fall he was able to go for a walk.'

In the course of the three weeks succeeding the date of this fall it seems that he had as many as ten or twelve fits, each of which, so far as we can ascertain, deprived him of consciousness, and was decidedly of an epileptic character. The convulsions are said to have commenced in the left arm and leg, and to have extended to the whole body. The fits were preceded by a 'nasty sensation in the mouth.'

Dec. 8.—During the last five months he has had no fits, and has been feeling tolerably well. On the night of the 8th he 'went to bed well and in higher spirits than usual; awoke in the morning, feeling very strange; and had another fit, in which he remained unconscious for twenty-four hours.' After the return of consciousness he was taken to St. George's

Hospital. He remained an in-patient for twelve days, and was discharged at his own request.

Jan. 4, 1873.—He came to see me at St. Bartholomew's, complaining of occasional giddiness, and more or less constant pain and noise in his head. He feels stupid and ill. The middle of the old cicatrix still discharges a little pus. The sight of both eyes is good; but the left pupil is smaller than the right. He is quite deaf in the left ear. I advised him to remain in the hospital under observation. After a stay of four weeks he seemed so much better that I sent him to the Convalescent Hospital at Highgate.

After a month's stay at Highgate he grew obviously worse. He had a severe shivering fit, and was obliged to go to bed. The pain in the head became so much worse that he was compelled to 'hold his head with his hands.' It felt as if 'the bones were coming through the skin.' In a day or two the pains abated, and the visiting surgeon, Mr. Forshall, taking a serious view of the case, sent it back to St. Bartholomew's on March 5.

March 6.—I find him stupid and drowsy, complaining of great pain in the forehead and left temple. His tongue is coated. Pulse 60. The cicatrix dry.

March 8.—Is becoming more drowsy; is always in bed, and apparently asleep; is disinclined to take any nourishment; rolls from one side to the other, but lies chiefly on the left, with his hand under his head.

March 9.—To-day he is still more comatose. I made an incision through the cicatrix, and introduced a probe in the hope of finding pus, but without success.

March 10.—It is evident that the coma is increasing every hour; in fact it is difficult to rouse him in any way. He lies nearly insensible on his left side, with his knees bent. Pulse 60. Temp. 104°.

After a consultation with my colleagues, it was unhesitatingly agreed that the only chance of relief was to trephine, in the hope of letting out matter within the skull.

Operation.—When the patient was placed on the operating table he was completely insensible; therefore chloroform was not needed. A cross incision was made through the cicatrix, and the bone laid freely bare. A small hole was found through the frontal bone, about the size of a crowquill. Over this hole a trephine about half an inch in diameter was applied, and a circle of bone removed. No pus appearing, the dura mat was divided and turned back. Then the brain bulged up, and felt

exceedingly tense and elastic, as if matter were confined a little below the surface. A bistoury was quickly plunged into the brain substance. Instantly a column of extremely fœtid pus spouted to a height of several inches through the opening. The relief was immediate. The breathing, which had ceased, returned. The lividity of the face passed away. The heart's action, which, during the pressure of the trephine on the skull, was so irregular that it could not be counted, fell to 140. The pupils became equal in size.

The amount of pus which escaped was estimated to be about 5 oz.

I am indebted to Mr. Cumberbatch for the following particulars:

'During the operation, the patient became rapidly more and more livid; the respiration slower and shallower; the heart's beats increased in number and violence to such an extent that they shook the patient, and even the operating table. The pulse rose from 160, till it became too rapid to count. Immediately after the escape of the pus the patient took a deep breath; the pulse began to fall and the lividity to diminish.'

Two hours after the operation the pulse was 80.

March 11.—He recognised his mother this morning, and spoke to her; puts his tongue out when asked to do so. Pulse 68, and regular. Temp. 100·5°. The wound is poulticed, and discharges freely.

March 12.—Answers, when spoken to, 'A little better to-day, sir.' Pulse 60, and regular. No sickness, but distressed by hiccough every two or three minutes, which prevents sleep. The left external rectus muscle is partially paralysed. Ordered to have a mild aperient.

March 13.—Still more conscious this morning; bowels relieved; hiccough continues.

March 14.—The hiccough has stopped; progress most favourable; says he is hungry.

March 17.—Is perfectly conscious; no return of the hiccough; sleeps much; wound profusely discharging and granulating.

March 19.—There is a slight internal squint of the left eye. There is double vision at a certain range, but perfect sight in each eye.

March 28.—A small fragment of bone belonging to the old fracture came away with the discharge this morning.

April 7.—He sits up in bed, reading; general health excellent; wound nearly healed.

April 14.—The wound has all but healed. There is a deeply

depressed and firm cicatrix, but no pulsation is perceptible where the trephine was applied.

April 15.—This morning the eyes were examined with the ophthalmoscope by Mr. Power, who reports as follows:—'Optic neuritis in both eyes. Both discs œdematous to an equal degree. The œdema does not extend much beyond the immediate margin of the disc. The margins are ill-defined; the vessels large and tortuous; the small radiating arteries numerous.'

April 19.—He has nearly recovered the power over the external rectus of the left eye. The internal squint and double vision have disappeared, except when an attempt is made to turn the eye far towards the left; then, the still weak muscle tires, and diplopia again appears.

April 20.—To-day he got up, and dressed himself; but, as he complained of slight headache afterwards, we sent him to bed again.

May 1.—A little suppuration, which had formed under the cicatrix, was let out by a small incision.

May 10.—The wound has firmly closed.

May 24.—He is allowed to get up and walk about the Hospital square.

July 11.—To-day he is sent to the Convalescent Hospital at Highgate, apparently in perfect health.

August 10.—Since his departure from St. Bartholomew's he has been and continues in all respects well. He amuses himself like the rest of the convalescents, and 'can catch a ball as well as any of them.' He tells me that his memory and other intellectual faculties are not in any way impaired. In proof of this, he has, at my request, written for me with singular clearness all the particulars of the accident, and other details concerning his case, of which I have availed myself in drawing up this report.

ARTICLE VII.—*Clinical Observations upon certain Skin Diseases.* PART II.* By DYCE DUCKWORTH, M.D.

IN this communication, representing some of the more important work done in the Hospital Skin Department during the past twelve months, I propose to report and comment upon the following cases:—

* Part I., vide vol. viii. p. 43, 1872.

1. Tubercular Syphilide.
2. Acne rosacea (Gutta rosacea).
3. Morphœa (Keloid of Addison).
4. Lichen ruber.
5. Lichen planus. Two cases.
6. Xeroderma, with Brown Icthyosis.
7. Icthyosis cornea (Hystrix).
8. Pemphigus diutinus. Two cases.
9. Eczema papilliforme (E. hypertrophicum papillomatosum, *Wilson*).
10. Sacro-coccygeal Herpes occurring in a girl while taking arsenic.
11. Molluscum fibrosum. Two cases.
12. Cicatrix-Keloid, following Dermato-syphilis.
13. Tinea favosa of the epidermis. Three cases.
14. Note on a case of Porrigo decalvans, unaffected by general eczema-impetiginodes of the scalp.
15. Treatment of Porrigo decalvans by local application of liquor ammoniæ.
16. Notes on the topical action of chloroform upon patches of tineæ.

It will be found that in the first four instances I have merely continued the reports of certain patients whose cases were recorded at length in my former communication. It is manifestly of the highest importance, as well in dermatology as in other departments of medicine, to watch and note the progress of chronic cases o disease. And so, indeed, with regard to many skin disorders that may be termed acute, a knowledge of the vital history of the patient for a succeeding decade of years would, I believe, prove of extreme value and interest.

Tubercular Syphilide.

C. D., æt. 23,* returned December 6, 1872, having been absent six months, and having taken no medicine for five months. She had been nursing her mother during a fatal illness, and her health had failed under the constant strain and confinement indoors. New patches of the disease, soft, raised, dark red in colour, and similar in all respects to the former ones, had appeared upon the right cheek, about the shoulders and mammæ, also upon the interscapular region. In no instance had a patch recurred upon a previously affected locality. In one week, after taking five grains of iodide of

* Part I. vol. viii. p. 58. Vide casts in Museum of St. Bartholomew's Hospital.

potassium thrice daily, there was marked flattening and general subsidence of the tubercles. In three weeks the improvement had so far continued that there were merely some glossy, copper-coloured stains left.

May 9, 1873.—This patient returned, with several large fresh patches over the sternum and between the shoulders. These appeared two months previously. She had not been taking any medicine. The iodide of potassium was repeated.

Patient not seen since (August 1873).

Acne rosacea (*Gutta rosacea*).

The case reported upon in my last paper * remained free from the disorder for some months. She came again under treatment; but the pustules were only slightly developed, and the affection has never shown any tendency to recur in the severe forms in which it presented itself two years ago. The employment of the lotio calcis c. sulphure is of great value in this case, and quinine generally proves useful.

I may state here, that I seldom employ any other local application than the above in cases of this disease, and I have much reason to be satisfied with it.

Sufferers from Acne rosacea are usually solicitous about the particular drinks suitable for them. In such cases as are manifestly not excited and maintained by indulgence in strong liquors—and these are not few—I do not hesitate to prescribe such as they find from individual experience to agree best with them. Certainly, in the greater number of hospital cases, a more or less tonic plan of medication is necessary.

Morphœa (Keloid of Addison).

No fresh case of this affection has come before the clinique during the past year; but I am enabled to continue the report of the case which I recorded in Part I.† The young man left London for employment in Lancashire. In April of this year he wrote to say that he was worse than when I last saw him in the previous December, and that he was under the treatment of a local practitioner. August 21. Being on a visit to London, he came to see me, and I noted the following points:—The patch has so far altered that it is larger in all its dimensions. It now reaches the inner end of the left eyebrow,

* 'St. Bartholomew's Hospital Reports,' vol. viii. p. 57. Cast in Museum collection.

† Ibid. p. 55. Cast in Museum collection.

has spread chiefly to the left towards the temple, and has extended very slightly upon the vertex. It has assumed a somewhat darker hue, and is now of a raw sienna colour. Some pink vascularity is visible here and there, and some small venules can also be seen in places. The greater portion of the surface has become raised, thus illustrating the transformation from Morphœa atrophica (M. plana) into M. tuberosa; and, as Mr. Erasmus Wilson found in a remarkably similar instance, the sensibility is greater on the flat than upon the raised portions.* Some fine downy hairs are seen growing near the centre of the patch, but there are still broken hair-stumps to be met with at intervals, mostly near the margins. The general health is very good. There is an oppressive sensation experienced in the affected part; and, although there is no pain, there is tenderness felt, which is most marked near the vertex. Cod-liver oil and quinine were recommended for him.

Lichen ruber.

P. L., æt. 20.† The subject of this affection remained in Hospital for four months after the last report was published (July 30, 1872).

He tried for a time the application of carbolic acid (℥j ad ℥j adipis) to one arm, and rubbed pitch ointment into the other. The result was decidedly in favour of the latter remedy, and accordingly it was ordered for general inunction. Cod-liver oil was not well borne, and Fowler's solution was given in increasing doses, up to ten minims, thrice a day for six days in the week. A warm alkaline bath was given three times a week. Under this treatment a very marked improvement occurred; the skin became almost smooth and glossy upon the limbs, and the lad gained weight. No change took place in the hair generally over the body; and ever and anon new papules would crop up in parts, especially on the backs of the hands, where the pitch was with difficulty kept in contact. After seven months' constant Hospital residence, and notwithstanding the continuance of treatment, the disease showed tendency to recur, and the lad lost weight and appetite. I therefore suspended all remedies for a short time, and the malady returned with remarkable rapidity.

The patient left the ward and became an out-patient, resuming the treatment last employed.

* 'Diseases of the Skin,' 5th edit. p. 404.

† Part I. vol. viii. p. 49. Vide cast in Museum of St. Bartholomew's Hospital.

June 1873.—The affection is kept in abeyance by the use of pitch ointment. Cod-liver oil has been applied to part of the body, and is likewise useful, but is hardly so efficacious as pitch.

July 12.—Patient has improved lately, and looks stronger. He has grown a quarter of an inch in the last twelve months, and has gained several pounds in weight.

Aug. 22.—It is observed that a considerable increase of hair has taken place upon the arms and legs.

Lichen planus.

The subjoined cases constitute the whole of my experience of this affection during the past year.

Case I.

M. L., æt. 36, married, no family; a fair-haired, slightly-built woman; never very robust; catamenia scanty. In January of the present year small papules first appeared upon the backs of the arms, upon the abdomen, and on the front aspect of both legs. She applied at the Hospital in February, and the papules were then found as described above. They were disseminate, and here and there small quadrilateral patches were to be seen. The surface of the papules was smooth and glossy, slightly umbilicated, and of a pink hue. Severe itching, worse at night, was complained of. The finger-nails were puckered in a linear manner, and shrunken at the roots. A sedative lotion, consisting of zinc oxide and calamine with glycerine and lime-water, was ordered locally, and bark and ammonia were given internally. The itching was much allayed by the lotion after the lapse of a week or two. Cod-liver oil and steel were next prescribed. There was slow improvement. New papules appeared from time to time, and, as the old ones faded, small pigmentary stains marked the sites of them. Some of the groups of papules were circular in form, the size of a large hempseed. The eruption was most abundant upon the trunk, and on the inner aspect of the thighs. In five months there was marked improvement. The same treatment was continued, and some zinc ointment was used in addition to the lotion.

In contrast to this case was the following, in which, though the disease was typically marked, there was no itching whatever.

Case II.

E. H., æt. 20, cigar-maker, a tall, rather pallid, dark-haired, fairly well-nourished lad. Complains of general weakness, and of small spots about his body. He was found to be the subject of Lichen planus, small characteristic papules being visible, scattered over the limbs and trunk, and more especially marked inside the knees and on the inner aspects of the arms. There was absolutely no itching. The spots had not been observed for more than a few weeks.

The red oxide of mercury ointment was ordered to be applied locally, and quinine and iodide of potassium were prescribed for him.

No improvement resulted from this method of medication during one month. I now ordered a sixteenth of a grain of perchloride of mercury three times daily for three weeks, but this produced no noteworthy effect either upon the disorder or upon the patient's gums.* Indeed it seemed that new papules arose about this period. I now employed the Linimentum Picis Comp., and gave as a placebo, in order to watch the effects of pitch in an uncomplicated manner, an ounce of Aqua Camphoræ thrice daily. In the course of some weeks there was improvement. The same treatment was pursued. In three months he was almost free from papules, and slight pigmentary patches only were visible where they had formerly been. These faded away in a short time, and the patient ceased to attend.

The effects of pitch were therefore well marked in this case, and I am of opinion that the disorder would have continued but for the employment of it. Notwithstanding the views held and expressed by Dr. Tilbury Fox, I believe that this affection is not the same as Lichen ruber of Hebra. I think there is certainly a close alliance between the two diseases; but the form described by Wilson is infinitely more amenable to treatment and admits of much happier prognosis than that to which Hebra's name is affixed.

Xeroderma, with Brown Icthyosis.

The following case was under observation for some weeks

* I would take this opportunity of stating that I never prescribe the perchloride of mercury with decoction of bark. This combination is still very often ordered, notwithstanding the incompatibility of the drugs. It is doubtful if any effects of mercury can be secured with this mixture.

in the Hospital. I append the notes of the clinical clerk, Mr. H. J. Ilott.

L. M., æt. 15, was admitted into Mary Ward under the care of Dr. Duckworth, December 17, 1872, with xeroderma and brown icthyosis. She was born in London, and had been living with her parents in the City Road. The disease was first noticed when she was four years old. At that time the skin generally was rough, dry, cracked, and covered with white scales. In the winter the state of the skin was worse, as it used to crack and bleed, especially on the arms and legs. She always felt tight and uncomfortable. Over the surface of the body, and on the extremities, the hair did not grow. The hair on the head grew well; but she was subject to a good deal of scurf. She perspired very little, even after taking violent exercise, and then chiefly on the face and palms of the hands. Otherwise her general health was good. At this time she was under medical treatment. She was ordered some medicine to be taken after meals, and oil to be rubbed into the skin. By these remedies her condition was much improved. On discontinuing treatment her former state of skin gradually returned.

Two weeks before her admission into this Hospital she attended the Hospital for Diseases of the Skin in the City Road, but received no benefit from the treatment employed. Her mother when a child had suffered from a similar condition of the skin about the mouth and cheeks. Her father is a healthy man, and her brothers and sisters are free from disease. On admission she had almost general xeroderma, and in addition, on the right axilla, and extending over the scapula, brown papillary processes, arranged in the lines of motion, and to a less extent in the lateral region. The corresponding parts on the left side were similarly affected, but to a less degree. On the outside of the right knee, and on the outer malleolus, similar papillary growths existed, and in a minor degree on the left side.

She was ordered full diet; the skin to be washed with soft soap, and afterwards anointed with the glycerine of starch: also the following medicine:—

To have an alkaline bath twice a week. ℞ Magnes. sulphat. ʒj. ex Hst. Acid. nitro-hyd., bis die.

Jan. 7.—Repeat hst.; soft soap to be discontinued. ℞ Pil. Aloes c. Nucis Vom. gr. v. p. r. n.

10.—The skin of the face and neck was almost natural, and soft though slight patches of wrinkled skin were perceptible on the face about the nose and on the forehead. The skin of

the upper part of the chest was natural as far as a line connecting the mammæ. Both arms were rough, but not hard, from the shoulders down to the wrists, except a smooth patch beginning about the middle of the flexor surface of the upper arm, and extending over the flexor and supinator surface of forearm as far as the wrists. The skin, especially on the outer or extensor aspect, was shining, cracked, and dry, with parallel fissures in the lines of tension, running downwards and inwards in the upper arm, downwards in the forearm. In the axillæ and over the scapulæ the skin was rougher, with scales of a brownish colour but thinly scattered on its surface. The whole back was rough and scaly, becoming worse towards the sacrum. The skin over the abdomen was likewise rougher than natural. In the anterior part of both lumbar regions it was very much more so, the cuticle being thickened, dry, cracked, and marked by wavy longitudinal fissures. The upper surface of the thighs, legs, and feet were similarly affected to the arms; the roughness, scales, and fissures being most evident on the front of the leg over the tibia and around the knee. The hams and calves of the legs were much less affected, the popliteal space being nearly free. The palms of the hands and soles of the feet were free from scales; but the skin is hard, fissured, and moist, like that of a washerwoman. On the tips of the fingers the skin was soft and perspiring freely, the sweat standing in little drops at the orifices of the ducts.

Urine.—Sp. gr. 1,020, acid, clear bright yellow, depositing on standing slight cloud of mucus. Catamenia have not appeared.

Discharged Jan. 17, 1873. Condition improved.

On microscopic examination of some of the papillary processes which were picked off, there were found exaggeration of the structure of the papillæ of the corium, and imprisoned hairs.

In May 1873 the girl returned, and she was seen to be in much the same condition as when she was admitted previously. The disorder had evidently returned in consequence of imperfect efforts to keep down the undue epithelial formation. The same plan of treatment was again resorted to.

A case very similar to this one was shown to me at the Meath Hospital in Dublin in April last by my friend Dr. Arthur W. Foot. In a note recently received from him he mentions that the patient, a girl, caught scarlet fever in the ward after she had been successfully treated for the

icthyosis and xeroderma. The desquamation subsequently was very slight upon the previously-affected parts of the skin. This was no doubt due, he thought, to the recent exuberant formation of cuticle.

Icthyosis cornea (*Hystrix*).

A very remarkable instance of this disease came under observation, and was admitted to Radcliffe Ward under the care of Dr. Southey, who has permitted me to make use of the case.

A. S., æt. 13, has suffered from icthyosis from the time of birth. He has lived in the country all his life; is well grown and well nourished; hair light. At birth, small red spots were noticed upon the body; in three days there was 'heaping up' upon them. The disease is especially developed upon the limbs, where it runs in linear masses, raised about a quarter of an inch from the unaffected skin. On the trunk are patches and streaks of xeroderma and slightly developed papillary icthyosis, though nowhere, in this minor form, of a brown or grey colour. At intervals, upon the arms are spurs, of a horny nature, more than a quarter of an inch in length, and slightly curved. One of these is situate on the prepuce, and is like the claw of a kitten. There is a certain amount of symmetry as to the affection on the limbs. The elbows and knees are especially covered; and very dense growths have occurred in these parts, horny processes being set in close series, slightly movable upon their bases. The distal phalanx of right little finger is incurved, as the result of an early injury. Palms of hands are much affected, and the epidermis is thickened; the soles are merely thickened, and present no papillary ridges. The hands are somewhat small. There is a brown, fimbriated patch upon the umbilicus. Brown patches are found around and upon the nose and mouth, on the helix and lobules of the ears, and around the neck. A dense, prominent cluster is situate on either fold of the nates. The mouth, tongue, gums, and scalp are not affected. There is no family history of any cutaneous abnormality. The grouped masses upon the knees singularly resemble clusters of *Balanidæ*, as met with upon marine rocks.

The treatment consisted in the frequent employment of warm baths. A lotion composed of one part of liquor potassæ to five parts of water was applied on lint under gutta-percha muslin to the arms and hands in the first instance. Glycerine of

starch was also used. The boy picked off several drachms of horny processes during his stay in the hospital, and in the course of six weeks the linear streaks were much flattened. Iodide of potassium and quinine and good diet were also ordered for him. At this date, August 15, considerable improvement has resulted, and the lad remains in hospital.

In such a case as this it is hopeless to look for a cure. The icthyosis is as much an organised mode of growth in this boy as is that of his hair or nails. Palliation is all that can be accomplished. While under treatment the colour of the growths has changed, and they are now clearer in appearance and have the aspect and hue of ordinary nail. This is due to the detergent action of baths and alkalies.

Mr. Godart succeeded in taking casts of an arm and leg of this boy, and these have been carefully coloured and added to the Museum collection.

Pemphigus diutinus.

Two cases of this affection have been under observation.

Case I.

Feb. 21, 1873.—T. L., æt. 49, a gardener, sent up from Chislehurst by Mr. Charles Humphry, is a tall, light-haired, sparely-nourished man; muscles flabby. Two years ago small blisters first appeared upon the left wrist and upon the forehead. Since that period they have occurred on most parts of the body, and the size has varied. The smaller bullæ cause more pain and annoyance. The arms have suffered more than the legs. No vesicles have occurred in the mouth. Since the disease began there has been no period of intermission. Never had syphilis. The creasote baths of the Hospital were prescribed twice a week for this man; * flexile collodion was to be applied at once to each new bulla, and quinine was ordered thrice a day.

In two weeks there was slight relief. Small bullæ continued to come at intervals, and chiefly above the wrists. In May there was more marked improvement. Arsenic was given during this month, and bran baths were employed. One bulla appeared on the roof of the mouth. In June it was noted that there was no decided change for the better. No good effects could, in any degree, be attributed to the use of arsenic. Steel

* *Balneum Creasoti* (St. Bartholomew's Hospital). ℞ Creasoti f℥ij., Glycerini f℥ij., Aquæ Cong. xxx. M.

was now added to the arsenic (mv. of Fowler's solution being taken twice a day), and the creasote baths were again had recourse to. The nitrate of mercury ointment was also ordered to be smeared upon the vesicles. In July it was noted that the bullæ came out chiefly about the neck, and that they were very small. The man declared that he was always worse in hot weather. In August two more bullæ appeared in the buccal membrane, opposite each lower canine tooth. Zinc ointment is now found to suit best. The patient is decidedly better, and feels much stronger. Has not had baths lately.

Case II.

P. H., æt. 18, came on June 6, 1873. Is a sempstress, fair-haired, and well nourished. Was in Elizabeth Ward in the Hospital for a week, at Christmas time last year, suffering from pemphigus.

For two years she has been subject to the disorder. Bullæ first appeared upon the nose, lips, and pubes; next they came upon the mammæ and on the neck; and at one time they occurred on all parts of the body. They are most persistent upon the covered parts, and the right arm and right ankle are the favourite seats of the complaint. The girl's history and that of her family were excellent. At one time she derived benefit from quinine, and likewise from an ointment composed of one part of nitrate of mercury ointment to four of lard. These remedies were, therefore, again ordered for her.

In the history of chronic pemphigus it would seem that the parts of the body most affected, both in frequency and in persistency, are those which are most covered up and least exposed to the air. There is also very commonly a predilection for a certain limb or region of the body, and which part suffers unduly in consequence. In my experience, I have witnessed no benefit of any kind in these cases from the employment of arsenic. Diluted citrine ointment appears to be one of the best of the local applications, and I think the plan of collodion painting is always worthy of trial in troublesome cases.

In the first case, although benefit occurred while arsenic was being taken, the improvement was not manifested till after iron was prescribed with it; and the arsenic was then only taken twice a day, instead of three times as formerly.

Eczema papilliforme (*E. hypertrophicum papillomatosum*, Erasmus Wilson).

I have seen two cases of this somewhat rare affection during the past year. The first occurred in an old man, who came into Mark Ward suffering from empyema with intercostal fistula. He was completely exhausted, and had been living in the utmost poverty and neglect. Both of the legs were covered with this form of eczema. After poultices had been applied, the exact nature of the disorder was disclosed. The fœtor from the suppurating surfaces was intolerable. The second case was that of S. M., æt. 42, the subject of polysarcia. She was admitted into Mary Ward. Her girth was five feet two inches round the waist, and her weight was eighteen stones. The affection had begun fifteen months previously, on the right leg, in the form of small spots; blisters subsequently appeared, and a discharge commenced. Two months ago the left leg was similarly affected for a time, but less severely. It is now quite free. The catamenia were regular. The urine was scanty, depositing lithates, but free from albumen. The cardiac sounds were natural. The polysarcia had come on gradually during five years previously, and in consequence she had led a very sedentary life. The leg was covered with a mass of scabs and purulent crusts, and on removal of these by diligent poulticing the whole surface was found to be made up of numerous red, papilliform, fungating masses, and from these was produced a considerable quantity of stinking pus. The feet and ankles were œdematous. The affected surface was very painful, and much burning and itching sensation was experienced. There was formerly more discharge than occurs at present.

After the poulticing, various slightly stimulating lotions were employed, but there was great intolerance of all of them. Poppy-head fomentation was found to be the best application, and smearing with olive oil proved soothing.

Later on, a lotion of sulphate of zinc (gr.j. to the oz.) was found to be very efficacious. The nitro-hydrochloric acid draught of the hospital was given internally.

The disorder appears to prevail most frequently upon the lower extremities, and it would seem to be dependent either upon venous stasis, or upon this together with a lowered vitality of the textures generally.

The prominent diagnostic points are the peculiar fungating, papillary masses, which stand up like granulations, and which

throw off a highly fœtid, purulent discharge, oftentimes in large quantity.

Mr. Godart secured a good coloured cast of the leg of the woman whose case has been described, and it is now in the Museum collection.

Sacro-coccygeal Herpes occurring in a girl while taking arsenic.

M. G., æt. 9, spare, tall for her age, clear complexion, brown hair, of nervous habit, came under treatment for histrionic spasm, which had lasted about two years. The tendency was inherited. Amongst other remedial measures employed, three or four mimims of Fowler's solution were ordered twice a day after meals. In about ten days pain was felt at the sacrum, and on examination three days subsequently two patches of herpes were found, one on either gluteal region near the beginning of the anal groove. That on the left buttock was the larger, and extended somewhat upwards. There was no eruption on the mesial line. The two affected surfaces came in contact, and led to an apparent coalescence of vesicles in a situation where eczematous intertrigo would naturally have been produced. There was no weeping, and the vivid reddened basal area extended beyond the vesicles. Collodion was painted on the outer margins, and zinc ointment applied on lint between the gluteal folds. The affection appeared to lie in the course of filaments of the last sacral nerves.

I am constrained to place this case on record for several reasons. It is the first instance in my experience in which a herpetic eruption has occurred in a patient while under the influence of arsenic. I confess that I have been surprised to meet with so few cases, for in the experience of others many instances have been observed. Mr. Hutchinson has published accounts of two series of cases, and he has called attention to the fact with some emphasis.

I have been in the habit of treating cases of chorea in children with arsenic, since I learned the practice from the late Dr. Begbie of Edinburgh, and I believe this drug to be of high value in this disorder; but I never recollect having seen herpes in any case. Again, in some forms of psoriasis I employ arsenic together with the local application of pitch or of calomel ointment; but I have never witnessed the occurrence of herpes in any instance. Hence I am compelled to believe that this is at any rate a rare phenomenon, and I give publicity to this case in a spirit of impartiality, and in the hope of still further directing attention to the matter. Mr. Hut-

chinson * observed, in the majority of his cases, that the eruption was more or less unsymmetrical. This was not so in the instance just related. In a series of sixty-three cases of shingles tabulated by the same writer, he mentions that in no single instance was the eruption on a part supplied by any of the sacral nerves.† Hence some additional interest attaches to the case recorded above.

Molluscum fibrosum (*Fibroma molluscum, M. simplex*).

The following cases have been under my observation. The first was seen in private, but I record in this place such notes as I took of it. The second case was taken into the Hospital for some weeks:—

Case I.

M. F., æt. 35, a lady of dark complexion, with dark hair, married; has had nine children, four of whom are living, and healthy. Never very robust. When about twenty years of age she became the subject of Molluscum fibrosum, and during the last five years these growths have increased both in number and in size. They are found on most parts of the body, the largest, about the size of hazel-nuts, being situate in the popliteal spaces.

They occur upon the neck and upon the backs of the hands. None are to be found on the palms, soles, nor upon the palate. The tumours are of various sizes, partly pediculated and partly sessile. Some are subcutaneous, and of a lilac hue as seen through the skin. The majority are pink in colour. They give rise to no pain, but the patient is naturally unhappy and apprehensive about them. Various plans of treatment have been followed, but without any good result. The local measures, such as the application of acids, were unavailing.

There was no history of any such disorder amongst the relatives of this lady, and her own medical history yielded accounts of typhoid fever, jaundice, neuralgia of left fifth nerve and also of left brachial neuralgia. She was of high mental culture.

I recommended the use of a ten-per-cent. solution of oleate of mercury to some of the tumours, and of the acid nitrate of mercury to others, and I urged the ligation of some of the most

* Mr. Hutchinson's cases are recorded in the 'Medical Times and Gazette, Dec. 26, 1868, p. 722.

† 'London Hospital Reports,' vol. iii. p. 93, 1866.

pediculated growths. Internally, I prescribed steel and iodide of potassium.

No further account of this case has as yet reached me.

Case II.

J. R., æt. 35, admitted to Mark Ward, June 25, 1873. (Notes of the case, by Mr. C. H. Day, clinical clerk.)

'June 25, 1873.—J. R., æt. 35, is a workman in a pottery; he is fairly well built, but not tall; the bones of his legs and arms are large, and he has large, powerful hands; he is fairly nourished, and his complexion is dark, and the skin over his trunk and limbs is also of a dark colour. He has been rather deaf most of his life. Tongue is moist, rather anæmic, and slightly furred on dorsum. Pulse 68, regular, easily compressed. His lungs are emphysematous. Heart's sounds are natural, though muffled, posteriorly. Breathing sounds are feeble over whole extent of lungs. He always has a cough during the winter, but during the summer it is not so troublesome; he does not spit much with it. Appetite is not very good; has dryness of mouth, which seems to prevent his enjoying his food. Bowels regular; usually open once a day. Micturition normal. Urine: sp. gr. 1,030; acid; no albumen, no sugar. Usually sleeps well at night.

'On his forehead are one or two small fibrous growths; and on the right side of his chin there is one larger than those on the forehead, being almost as large as an ordinary hazel-nut. All over his chest and abdomen there are fibrous growths, varying in size from that of a large currant to that of a mustard-seed. They are all more or less soft to the touch; some are sessile, some pedunculated, others subcutaneous. In colour they are darker than the surrounding skin. On the summits of many of these growths are seen large and small black spots, from which sebaceous matter may be squeezed. Small pigmentary spots are also seen over his trunk, though chiefly over the back of his neck and on his shoulders. All over his back and sacrum these fibrous growths are very plentiful, especially over the spine of right scapula, where there is a patch, the size of a five-shilling-piece, which on pressure feels of a doughy consistence; this patch is now decreasing in size, having been larger than it is at present.

'On the limbs there are also a few of these growths, though they are scarce in comparison with those on the trunk; and on the legs are several largish patches of dark pigmentary deposits, with well-defined margins. No tumours are found on the palms or soles, or upon the hard palate.

'These growths have been coming ever since the patient was seven or eight years old; but he has never taken much notice of them till quite lately, when, one becoming inflamed, he came to the Hospital for treatment. He says that they occasionally itch and smart a good deal.

'Patient has never enjoyed very good health, but has always been ailing. He is usually troubled with a cough, and his breath becomes very short on exertion. He is of low mental development.

'His father and mother are living; he has two brothers and one sister also alive, all of whom are quite healthy, neither they nor any of his relations being troubled in a similar way to him.'

Mr. Godart secured a cast of the front of the chest of this patient for the Museum; also one of the right hand and forearm showing the tumours on the arm, as well as the enormous size of the hand. The treatment consisted in the calumba and soda draught of the Hospital, and the acid nitrate of mercury solution was applied to several of the tumours on the right forearm by means of a piece of pointed wood. One of the tumours was removed from the sternal region. Some of the subcutaneous growths were enucleated, after a small ulcerated opening had been produced by the action of acid nitrate of mercury. The man left the Hospital much improved in his general health.

Of late years cases of this disease have attracted much attention, and have been carefully studied in this country. Dr. Beale,* Dr. Hilton Fagge, Mr. Howse,† and Dr. Whipham,‡ have published records of histological examinations of the tumours. Dr. Tilbury Fox quotes, in his last edition of 'Skin Diseases' (1873), at p. 356, a report by Mr. Butlin on the examination of one of these tumours. The growth above referred to, which was removed from Case II., after being placed in spirits of wine for some weeks, was also examined by Mr. Butlin, and compared with the preparations made by him from the former case. It is important to mention that this tumour was a somewhat pedunculated and very prominent one. It is well seen in the cast, which was taken previously. There can be no doubt that the microscopical appearances vary in the cases of prominent and large, and of subcutaneous and small, mollusca.

The origin of these growths is naturally best studied in their

* 'Path. Soc. Trans.' vol. vi. p. 313. † 'Med.-Chir. Trans.' vol. 53, p. 217.
‡ 'Proceedings of Royal Med.-Chir Soc.' March 11, 1873, p. 149.

early stages; and Dr. Fagge has, I believe, very thoroughly examined tumours in this condition, and both he and Dr. Beale agree for the most part in localising the earliest nutritional changes in the two external layers of the hair follicles. They differ apparently as to the extent to which both the hair follicular and the sebaceous glandular elements are involved.

I believe that the several discrepancies which are found in the accounts of different observers have arisen as follows:— Firstly, it is to be noted that some of the recorded examinations were made upon tumours removed from the body during life, while others were more carefully made from large portions of integument secured after death. Secondly, it appears to me certain that the histological characters of the growths must vary much, accordingly as they are small and recent, subcutaneous or prominent, or whether they be in their climax of development, or be in their decline.

Virchow's observations appear to have been made upon growths removed during life, and he has formed the opinion that the subcutaneous mollusca originate in the panniculus adiposus, and the projecting tumours are formed in the corium.*

It is obvious, I think, that the relations between the new growth and the original follicular and glandular structures must vary both according to the age of the tumour and the amount of mechanical disturbance entailed by it.

Hence we find, clinically, that the tumours not only vary remarkably in form, aspect, and situation, but also that certain of them present decided signs of altered relations to both the hair and sebaceous structures. Some tumours are apparently devoid of puncta or openings communicating with sebiparous glands; others, again, are manifestly crowded with blocked ducts, and have distended glands in addition.

I entertain no doubt that the hair structures are for the most part lost in the larger growths, or they at any rate easily elude even a careful examination of prepared sections; and, in a similar manner, the parts connected with the sebaceous system will be more or less evident, according to the age and phase of the particular growth examined.

In neither of the tumours examined by Mr. Butlin, and which are all that I have seen prepared for the microscope, were there any hair or sebaceous structures found. But both of these were prominent tumours, and in that from Case II. there was no appearance of any hair or sebiparous

* Neumann, 'Text Book of Skin Diseases,' p. 278.

gland-duct to the naked eye. That mollusca of this kind do undergo a certain development, and in due time begin to change and degenerate, I hold as certain. In Case II. certain of the tumours had manifestly altered and shrunk, and some of them were reduced to the condition (apparently by atrophy) of acrochordon.

An examination of sections of the tumour removed from Case II., and hardened in spirits of wine, revealed the presence of the natural structure of the epidermis upon its periphery, with the pigmentary layer well marked. Closely adjoining this was found a dense meshwork of fibro-nuclear tissue, which in fact appeared to compose the greater part of the growth. In several places there was the appearance of loculi containing small, crowded, cellular structures. There were also seen sections of blood-vessels, and of what may have been a sweat-duct. The cells in the loculi seemed to be caudate. It is right to state here that the sections were not so satisfactory as if they had been made from a tumour previously steeped in chromic acid. As already remarked, no traces of hair or sebaceous glandular structures were met with.

Hebra has observed that most of the cases of M. fibrosum which he has seen have occurred in persons of stunted growth and of low mental development.

Cicatrix-Keloid, following Dermato-syphilis.

F. F. M., æt. 27, well-grown, dark-haired man; complexion bronzed from exposure in travelling. Has been in India and in North America.

Three years ago he had a chancre; three months later had sore throat; subsequently had an eruption, apparently impetiginous about the body; also three 'boils.' For two years and a half had occasional outbreaks of skin affection. There are cicatrices in fauces. Above the left ear and under the right zygoma are found depressed cicatrices; the former one encroaches upon the hairy scalp. Upon these two scars are seen patches of keloid, pink in colour, and raised nearly one-fourth of an inch from the surrounding surface They are increasing very slowly, and occupy at present only a small area of the scar-tissue. They give rise to no annoyance. The patient was treated originally with mercury and with iodide of potassium. Mr. Jonathan Hutchinson and Dr. Tilbury Fox both saw this patient, and agreed as to the nature of the affection.

Dr. Moriz Kaposi * has recently endeavoured to show that the histology of cicatrix-keloid differs from that of true or idiopathic keloid, and that the former has within it the elements of cicatricial tissue as well as those of the keloid.

Tinea favosa of the Epidermis. Three Cases.

Three cases of this rare disease came under observation in July 1873 in the persons of brother and two sisters, æt. 5, 3, and 2 years respectively.

J. J., æt. 5, has suffered for three weeks from two patches of red eruption on the back of the neck. He is a sparely nourished, rather fair boy, dirty and neglected. He attends a school with his next younger sister. These patches are all circular, and vary in size from that of a threepenny-piece to that of a florin. All of them except one, the largest on the boy's neck, might well have passed for examples of ringworm (T. circinata) of the body. Both heads were quite free from parasitic disease, and there were no other patches on the body. On the largest patch on the boy were found two small, pale yellow cup-like masses, very significant of favus. There was evidence also of pustulation in numerous follicles upon both patches on the boy's neck.

In the case of the sister, æt. 3, who slept with her mother, the disease began two weeks previously on the nape of the neck, and a patch appeared subsequently upon the upper sternal region. As a result of the under surface of the chin lying at times in apposition to the latter patch, a third affected area was found in that locality. There was also a circular plot over the right olecranon. The third case occurred in the youngest child, æt. 2 years, who slept with the brother J. J. A patch was first noticed on the left shoulder one week previously. Several small, yellow cups were found upon it.

The mother stated that in every instance there were first seen small, watery heads. I could find no evidence of Tinea tonsurans in any of the patients.†

The fact of contagion was very decidedly established. I could not learn that there were any cases in the school which the boy and girl attended. There was one German boy at the school, but, according to the master's testimony, he was not affected. I regret that I omitted to make enquiry as

* Hebra and Moriz Kaposi, in Virchow's 'Handbuch der speciellen Path. u. Therapie,' iii. Band, ii. Theil, ii. Lieferung. Erlangen, 1872.

† Dr. Begbie, of Edinburgh, has recorded a case of favus and ringworm in the same patient, 'Edin. Med. Journ.' March 1864, p. 796.

to possible contagion from a cat. On applying chloroform to the patches, a powdery, whitish appearance was manifested after its evaporation. I have noticed the same thing on treating some patches of Tinea versicolor in a similar manner.*

In three weeks all these cases were free from the disease, which was treated by the application of Foster's paste to the patches, and by the exhibition of cod-liver oil and steel wine.

One of the cup-shaped masses was removed, and, on examination, yielded abundant evidence of spores and mycelium of Achoria Schönleinii.

I sent the boy to Dr. Pye Smith for an independent opinion as to the nature of the case, and he stated his belief that it was undoubtedly favus of the skin.

I now wish to express my belief that the case which I recorded in Part I. of this series of papers under the head of 'Favoid Crusts in a Case of Tinea Circinata,' was, in reality, one of favus of the epidermis.† My friends Dr. M'Call Anderson and Dr. Pye Smith have both suggested this view to me; and after observing the cases just reported, and which in so many particulars resembled that formerly described, I cannot doubt that the original one was truly favus of the skin.

My only plea for myself in having fallen into error must be the extreme rarity of these cases. I was familiar with favus of the body in a severe degree, but had not before seen cases in which the disorder so closely resembled ordinary ringworm of the skin; and indeed favus of the surface of the body, without implication of the scalp, is amongst the curiosities of dermatology. Dr. M'Call Anderson remarks that the patches of epidermic favus are, 'as a rule, much smaller and more uniform in size than those of ringworm.'‡

This observation is not borne out by the above cases, however.

Note on a case of Porrigo decalvans unaffected by general eczema-impetiginodes of the Scalp.

H. K., æt. 10, a dark-haired girl, was brought with thick crusts of eczema-impetiginodes covering the entire hairy scalp, with the exception of an oval patch situated near the vertex. On close examination this was found to be the seat of Porrigo decalvans, and the skin was pallid, perfectly smooth, and had some fine downy hairs. I have never met with a similar case, and the fact is certainly worthy of note.

* Vide p. 61. † 'St. Barth. Hosp. Reports,' vol. viii. p. 43, 1872.
‡ 'Diseases of Skin: Parasitic Affections,' 2nd edit. 1868, p. 76.

That the morbid condition in a patch of Porrigo decalvans should inhibit the trophical changes peculiar to eczema is surely significant of some pathological antagonism.

The case recovered under ordinary treatment.

Treatment of Porrigo decalvans by the local application of Liquor Ammoniæ.

A large number of cases of this disease having come under my notice in the course of the last twelve months, I wish to record some observations as to the local treatment by means of strong solution of ammonia.

I am not prepared to state that in all, or even in many, cases of this affection I should feel satisfied to employ only local measures. I believe, however, that occasionally cases are met with where such a plan of medication will suffice to promote recovery.

But in the majority of cases it is most certain that constitutional treatment must be combined with the topical applications.

In my paper upon this disease, published in the last volume of the 'Reports,' I called attention to Professor von Erlach's plan of treating it by the employment of turpentine locally, and I stated that I thought well of it, and that I believed I had secured more than usually satisfactory results with it. Since that time my friend Dr. Birkbeck Nevins, of Liverpool, has brought to my notice the history of two cases of Porrigo decalvans which he treated very successfully by the local application of liquor ammoniæ. He wrote: 'You may possibly think it worth while to try an empirical treatment that has been followed by success that would seem even incredible to me if I had not seen it. But the cases are only two, and I remember the difference between post and propter. The cases were the most complete baldness in strong, healthy boys, 10 and 12 or thereabouts; not another symptom of disease, local or constitutional.

'The whole scalp was rubbed with a small flannel mop soaked with strong solution of ammonia—so strong that neither the eyes nor the nose of the operator could bear it. The scalp appeared insensible to it—no pain, no inflammatory redness occurred. This was repeated daily until the scalp became sensitive, and the strength was reduced. By degrees, in a few weeks down appeared (the scalp could not bear any approach now to the strong solution), and in about six months

the head was fairly covered by a sufficiently vigorous hair to allow the boys to dispense with wigs, which they had previously worn.'

I therefore commenced this plan of local treatment in almost every case of the disease which came before me. In all of them some form of constitutional treatment was combined, such as cod-liver oil, steel, mineral acids, and nux vomica. In some instances I employed turpentine as well, but to different plots of baldness, in the same case, and thus I was enabled to compare the merits of the two applications. My clinical assistant, Mr. Stowers, took particular care to watch the progress of these cases, and the following are the conclusions that may be drawn from such experience as we have had:—

1. That the local treatment by strong solution of ammonia is apparently more satisfactory than that by spirit of turpentine.
2. That the renewal of hair-forming function is probably hastened more by ammonia than by any other local application.
3. That turpentine appears to be only second in importance as a topical agent.
4. That the ammonia treatment is, on the whole, less universally applicable in these cases than turpentine.
5. That in certain cases—a decided minority—the ammonia treatment cannot be borne because of its severity, e.g. exciting vesication. Turpentine never produces these effects, and is a less formidable agent in all respects.
6. That ammonia may therefore be regarded as a valuable local application in these cases.

Notes on the Topical action of Chloroform upon patches of Tinea.

The observations I have to make under this head were communicated at length in a paper read before the British Medical Association in August last; and, as that communication will appear in the 'Journal' of the Association, I shall do no more now than call attention to the method which I recommend for the better detection of the presence of dermatophytes. I discovered quite accidentally that the action of chloroform upon patches of ringworm of the scalp was specific. After a few drops have been poured upon the affected region and allowed to evaporate, a peculiar appearance is observed in certain of the hairs and at their points of emergence from the scalp. They become white, or of a primrose shade of yellow, and remain so. In this way these hairs may be at once dis-

tinguished from the others immediately adjacent, and if they be microscopically examined they are found to be infested with parasitic elements. Chloroform has no action upon healthy, uninfected hairs, and thus a very accurate test is afforded by this reagent wherewith to determine the presence and the amount of disease in any given patch or case of ringworm.

The white, powdery aspect of the scalp is no doubt due to the action of chloroform upon the Trichophyton, which always exists in greatest abundance in this locality. I have not found that any other reagent produces a similar effect upon these hairs.

When describing the cases of Tinea favus of the epidermis (p. 119) I mentioned that a powdery, whitish appearance followed the application of chloroform to the patches, and I have observed the same thing in examples of Tinea versicolor. In this manner it may perhaps be possible to distinguish stains of the skin of uncertain character from those the result of parasitic disease.

However this may be, I venture to commend this very simple method to the attention of all who may be engaged in the study of dermatophytes.

Article VIII.—*On the Treatment of Stricture of the Urethra by Retention of a Catheter.* By W. S. Savory, F.R.S.

IT will, I suppose, be allowed that, notwithstanding all the attention which has been given to the subject, the treatment of stricture of the urethra is still very far from being satisfactory. To say nothing of the vast amount of mischief done by the rash employment of instruments, how often can it be affirmed that even in skilful and judicious hands they effect a complete and permanent cure? Given a case of stricture—of thickening, induration, and contraction of some portion of the urethra—what prospect is there, by any means, of restoration of the canal to its normal condition? Some evidence of the unsatisfactory state of surgery in this respect is to be found, not only in the great variety of plans of treatment which have been proposed and practised, but also in the very great difference of opinion which still prevails among surgeons as to their relative merit. But I submit here a further question. Has surgery of late

advanced in the treatment of stricture? As our methods have become more and more mechanical, have we not gone more and more astray? Has our experience of such measures justified our disregard of the first principles of surgery? Has the success of the measures the most purely mechanical been greater than the careful consideration of the pathology of stricture would have led us to expect? Furthermore, is not much of the disappointment which patients have to bear from the hands of surgery due to the fact that the treatment of a case of stricture is usually begun at the wrong end—that instruments are, as a matter of routine, used in the first instance, instead of being, as a rule, reserved as the last resource? I mean to say that in practice it is a rare exception to meet with a case of stricture in a fit state for mechanical treatment of any kind at once; that associated with the contraction there is always more or less congestion, inflammation, or spasm, and until these have been subdued the employment of instruments must do harm. Those who are not in the habit of insisting upon rest and recumbency at the outset can hardly be aware of the vast improvement which these simple measures will effect. Very often it occurs that patients who will wisely submit to them as a preliminary measure to more active means, experience, as the result, such striking relief from their more urgent distress—the difficulty of micturition so rapidly diminishes, the stream of urine gaining so much in size, and the sense of irritation so completely subsides—that they will often decline any further treatment, being well contented with the issue of a week's or a fortnight's rest in the horizontal posture. Because the more urgent symptoms of stricture by no means depend on the mechanical contraction of the canal, but are, in most cases, more immediately associated with congestion or spasm. In the treatment of stricture, then, all mechanical means—the employment of instruments—should be kept in abeyance until, so far as such measures as I have mentioned will effect it, all complications have been removed. I only wish that the practice were carried out as fully as the principle will be assented to.

With this preface, then, I propose to call attention once more to one of the many plans of treatment which have been from time to time adopted, but which, among other methods, has, I think, fallen unfairly into disrepute. In some of our standard works it is hardly thought worthy of mention. I allude to the treatment of stricture by the retention of an instrument.

The efficacy of this plan when fairly carried out can hardly be denied. However obstinate and unyielding a stricture may be, if an instrument, passed through it, can be retained in the urethra for some hours, considerable dilatation of it is an inevitable consequence. However tightly grasped and fixed the instrument may be at first, it soon becomes loose and freely movable in the canal. And that this relaxation is not merely due to the cessation of spasm, but to a dilatation of the indurated and contracted portion of the urethra, is proved by the subsequent progress of the case. Of course the degree of dilatation thus effected in a given time will vary in different instances; but, as a rule, it will be found that in the course of twenty-four hours the instrument first of all introduced can be without difficulty replaced by another one or two numbers larger; in forty-eight hours by one four or five, or even six numbers, beyond. Thus if No. 3 were passed and retained, on the next day No. 5 might be introduced; on the next day again No. 7, or 8, or even 9. The plan of treating those strictures which require dilatation by mechanical means by the retention of an instrument has been a favourite one with me for many years past, and I do not think that anyone who has fairly tried it can have any doubt of its action in producing very rapid dilatation. Indeed, so far as I can learn, the objection to it does not rest on this ground. The arguments used against it are rather these: That it is a plan of treatment very difficult to carry out, inasmuch as the retention of an instrument in the urethra often causes considerable irritation, even great pain and distress, with constitutional disturbance, so that in most cases it has to be withdrawn before any material amount of good has been effected; and that the good which may be thus effected is only very temporary, the stricture soon becoming again as much contracted as ever. Now, the great force of the first of these objections I should be among the last to deny. No doubt the difficulty of properly carrying out this plan of treatment is the great obstacle to its success. It often breaks down either from want of resolution on the part of the patient to endure the temporary distress, or from fear, sometimes well founded, on the part of the surgeon, of setting up further mischief. And indeed it is far better to put this plan altogether aside than to make any attempt to carry it out without taking every possible precaution to ensure success.

In the first place, then, I would strongly urge the great importance of previous rest, even of absolute confinement to bed, or at least to a couch, for a week or two previously; and

this with the view of reducing the stricture to its simplest condition—of removing, so far as it is practicable, all associated congestion or irritation. To this end we may often assist the great means of rest by other measures—the careful avoidance of all exposure to cold, uniform warmth, warm baths, the regulation of diet, occasional aperients, more especially saline ones, which are often signally serviceable. Then, after an instrument has been introduced and secured, the patient should of course lie quiet—in the great majority of cases he will rest most comfortably on his back. It is well to move it slightly and very gently in the urethra from time to time. This gives the surgeon additional assurance that all is right, and tells him at once the degree of progress that has been made by the loosening of the stricture. The instrument may be either withdrawn at the end of twenty-four hours, and one a size larger introduced, or it may be left for two or three days, when it may be replaced by a much larger one. As a rule, I change the first instrument, if it be a small one (No. 1, 2, or 3), at the end of twenty-four or forty-eight hours, when I can usually pass No. 4 or 5, leaving that in for two or three days, when No. 7, 8, or 9 can be easily substituted. As to change of instrument, I am chiefly guided by the size of the catheter and the amount of suffering experienced by the patient. A large instrument may be retained longer than a small one, and the withdrawal of the original instrument and the substitution of another often gives relief when the patient is restless. Of course patients vary much in their ability to bear a catheter in the urethra. To some it seems to give little or no trouble; they make no complaint, feed and sleep well, and, in short, give no signs of disturbance of any kind; while others complain very loudly, declare their utter inability to bear the instrument any longer, and urgently demand its withdrawal, sometimes withdrawing it themselves. In my experience these latter cases form the exception to the rule, and even in these I think the difficulty may usually be overcome. In the worst cases of stricture, where only the smallest instruments can be passed, the chief difficulty in treatment is overcome if an instrument can be retained for twenty-four or forty-eight hours. In such cases I pass an instrument under chloroform, which has the double advantage of facilitating the operation and of saving pain; and then meet the subsequent distress and impatience by opium or morphia given either by the rectum, mouth, or skin. Many times I have succeeded in this way with patients where otherwise I should assuredly have failed. In

some cases of bad stricture the use of chloroform is of great service in facilitating the passage of an instrument; but its good effects are often counterbalanced by the change of position of the patient which its administration involves. I suppose that most surgeons will agree that when an instrument has to be passed in a difficult case, the best position for the surgeon is to be directly in front of his patient. The patient may either stand against a wall or sit half-reclining on the edge of a bed or a couch, in the latter posture with the legs separated, and in either case the surgeon sits in front of him. But if a patient who takes chloroform lies on his back in bed or on a sofa the surgeon must be on one side of him, and so must act, I think, at a disadvantage. The patient, of course, cannot stand while he takes chloroform; but he may be comfortably placed in a sitting posture half reclining, the back and head being supported by pillows. In this position chloroform can be readily given, and it secures every advantage for the surgeon. In the use of chloroform Sir Henry Thompson's caution is worth repeating: 'It is to be remarked that it is not for the purpose of permitting the instrument to be used with greater force than before, but in order to produce relaxation of the muscular tissues both of the voluntary and involuntary kinds, that the chloroform is administered.' Full doses of opium or morphia are well adapted to meet the difficulty one has to encounter afterwards; and as it is, for the most part, only a question of a few hours, we can afford to make a liberal use of the drug. When the first difficulty is overcome, in the face of much subsequent intolerance of an instrument, we may compromise matters by securing a catheter in the urethra for a few hours, and then, by withdrawing it, giving a few hours' rest. Of course by this plan much slower progress is made, for the rate of cure is in proportion to the ability to bear continuously a catheter; but still with patience and perseverance a satisfactory result may be achieved.

It is important, however, to be aware that if, during the process of dilatation, it becomes necessary, on account of the patient's intolerance, to withdraw the instrument for a few hours, it is often difficult or impracticable to reintroduce it or another of equal size. The strictured portion of the canal closes again so rapidly that it is often far better not to persevere with the original instrument, but to fall back on another a size or two less. The ground is only temporarily lost and very easily regained. So that while, on this account, it is well not to leave the urethra long without a catheter upon slight objec-

tions, the surgeon may assure the patient, if such need arise, that it will involve nothing more than some temporary delay and the trouble consequent on the reintroduction of the instrument.

I believe it has been generally advised—it certainly is by the highest authorities on this subject—that when a catheter is to be retained a flexible one should be employed. It is generally accepted that these are more easily tolerated than silver catheters, which, being of course hard and rigid, are more irksome to the patient. However plausible this preference may seem to be on theoretical grounds, I confess that it has not been borne out by the results of my own experience. I have tried both, and, as a rule, prefer the use of the silver instrument. In cases of bad stricture I not only introduce a metal instrument with less difficulty and more security than an elastic one; I can not only obtain far more satisfactory evidence as to where its point is when passing along the urethra, or when lodged in the bladder; I am not only better assured of the result of my manipulation, but, within my experience, the instrument, when once introduced, is less liable to slip out of position. Lastly, and perhaps chiefly, I have not found the retention of a silver instrument to be more intolerable than an elastic one. Therefore in the great majority of cases I work with a silver instrument; but, of course, I set forth my experience with diffidence, knowing it to be opposed to that of others whose authority on the subject I respect. The silver instrument may be gilded with the view of avoiding any action upon the surface, but this appears to me to be a needless refinement. Of course a silver catheter, when retained in the bladder, becomes stained; but I have never seen any change beyond this—certainly none which could be imagined to be in any degree mischievous. For the rest, I think the usual curves which are given to catheters to be too bold and full. I greatly prefer a much slighter curve than the usual one. Instead of a curve representing the quadrant of a circle whose diameter is four inches or thereabouts, I choose an instrument with a curve corresponding to about one-sixth of such a circle. It has been insisted on that only the point of the instrument should be lodged in the bladder; and no doubt the less of it there is in the bladder, the better. Still, for obvious reasons, it must be fairly in the bladder; its eyes must be clear of the prostate, and we must be prepared to make some little allowance in the way of excess in order to secure this. It seldom happens that the patient keeps so absolutely still that

no gliding of the instrument occurs; and this, provided it does not lead to displacement, I think is rather an advantage. At times, however, the secretion of the urethra, or a muco-purulent fluid which sometimes appears, dries around the catheter at the orifice, and so temporarily fixes it.

I do not mean to imply that this method of treating stricture is free from trouble, or even occasionally from danger, if not cautiously carried out and carefully watched. Patients sometimes suffer much from it; and this suffering, every now and then, passes on into feverishness and considerable constitutional disturbance. I need hardly say that, under these circumstances, the treatment should not be persisted in, but the catheter withdrawn at once; and it is consolatory to find that when the catheter has been retained only for an hour or two, some inroad has been made upon the stricture. It will occasionally happen that, without sufficient warning, rigors will occur marking the advent of constitutional disturbance. On the first alarm of this kind I have always immediately withdrawn the instrument, and have hitherto never seen any further ill effects arise. But after making full allowance for the feverishness sometimes induced, and even for the gravity of the mischief which the rigors suggest, I do not think that this plan is in anywise fraught with more danger than the others. What plan of treating stricture is at once efficient and quite safe? Is any one of them free from all risk? Nay, taking all the risks which await the treatment of stricture into consideration, I claim for this plan an advantage over others on the score of comparative safety. The best of it is, that in cases in which it cannot be borne we are warned in time, and can withdraw before it is too late.

The second argument which has been urged against this mode of treatment is, that the relief obtained is only temporary —that there is so inveterate a tendency to relapse, that soon after the treatment is discontinued the urethra becomes as much contracted as ever. This objection is, in substance, undoubtedly true. But, then, to what methods of treatment does it not, with at least equal force, apply? An inevitable tendency to contraction is an essential part of the very nature of organic stricture; and effect dilatation by whatever means we may, inasmuch as we cannot succeed in restoring the canal to a perfectly normal condition, there will inevitably be left some tendency to contraction—to recurrence of stricture. By some of our highest authorities on the subject certain strictures have been distinguished as relapsing or recurring strictures. For my

part, I confess I do not know the form of stricture to which the term may not be truthfully applied. Between the most manageable and the most obstinate it is but a question of degree, and not of a degree sufficient to justify the separation of any into a class. When a portion of the canal of the urethra is once the seat of that morbid change which produces stricture, when the healthy texture of its mucous membrane is destroyed, and there is an abnormal development of fibrous tissue in and about its substance, that portion of the urethra is virtually reduced—as Skey was wont to insist on—to the condition of a fistulous track, and after the fashion of a fistula tends to contract. An organic stricture, once established, is the canal of the urethra ever thoroughly restored to its previously normal state? As the rule, at all events, unquestionably not. So that whatever good may be accomplished by this method of treatment must be maintained by the periodical introduction of an instrument subsequently. But whatever may be the objection to this—and for the most part it is assuredly a trivial one—applies, I repeat, to every other method. And to say the least, I do not think relapses are at all more frequent after this than after any other plan. When people are said to be completely cured of stricture—supposing a stricture ever to have existed—the cure of it means a dilatation sufficient to enable them to micturate in comfort, to enable the urine to escape freely; and indeed it too often occurs that when this stage in the treatment has been reached, persons become careless about further improvement, and being for the time no longer conscious of any material discomfort, too hastily forego the opportunity of much greater gain.

In my opinion the mode of action of this plan of treatment contrasts favourably with that of any other. The stricture is overcome—the abnormal tissue is removed—by constant pressure. The great influence of pressure in producing absorption is a well recognised fact. We are familiar not only with many physiological, but also with many pathological, illustrations of its potency. And it comes in very happily for the remedy of stricture. When an instrument is then introduced it is tightly grasped by the contracted portion of the canal, but is loose and free elsewhere. So that pressure is brought to bear at the very spot where it is required, and there only; and in proportion to the amount of good effected is the degree of its action reduced. It acts not by mechanical force, but by a physiological process. Of all methods of treatment, this undoes the

mischief in the most natural manner; and herein, I submit, is its claim to be considered the best.

It is more difficult, I think, to understand how the occasional introduction of an instrument for a few seconds, as in the old and familiar method, can promote absorption. One would imagine that it must act rather by mechanical dilatation. But it is easy to believe that absorption must be the effect of the continuous pressure of a retained instrument.

The care and attention needed for success apply to every form and method of treatment. Nothing is more likely to lead to disastrous results than an idea on the part of the patient or surgeon that stricture is a trivial affection, which can without difficulty be promptly and permanently cured. It is, in the highest degree, rash to attempt the treatment of stricture by this or any other means without adopting previously and throughout every possible precaution. The need of previous rest before the use of instruments, in order to reduce the stricture to its most passive state, is not more urgent in this than in any other plan. It is contra-indicated when there is evidence of mischief beyond the urethra, as in the bladder or kidneys; but what other method then opens to us a fairer prospect of success? In comparison with other methods it is especially useful when there is a great difficulty in the introduction of an instrument, or when there are false passages. I have no thought of suggesting for one moment that the plan of treating stricture by the retention of a catheter is the best in every case. I know very well that it is not so; but I submit that its merits have not been fairly recognised, and that not only in its principle of action, but also in speed, efficiency, and safety, it will contrast favourably with any other method.

Article IX.—*On Athetosis, or Imbecility with Ataxia.*

By T. Clay Shaw, M.D.

THE term 'Athetosis' has been applied to a peculiar motor affection first described by Dr. Hammond of New York, and since his description alluded to by Professor Gairdner. These two writers refer to a disease attacking persons who, up to a certain age (more or less advanced in particular instances), were in good health, with perfect command over all their muscles. Before reading Dr. Hammond's description, I had

1.

2.

1*b*.

2*a*.

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noticed a peculiar but limited class of imbecile persons who resemble each other closely in features, bodily development, and peculiarity of action in certain muscular groups. These imbeciles (including persons of both sexes) represent a congenital condition, or at any rate one supervening soon after birth; and they so closely resemble those whose motor affection comes on at a later period, that one is forced to conclude that the central lesion is the same in both sets of cases, and that the history of the one set may explain that of the other. The rarity of the symptoms is shown by Dr. Hammond having only six cases to report, and my experience is limited to about the same number.

The affection may be at once described as an inability to retain a fixed position, owing to a slow but constant action of certain extensor and flexor muscles.

As in Dr. Hammond's instances of secondary disease, so in mine of a congenital affection, it is the muscular inco-ordination that renders them incapable of being of much service to themselves or others. The term 'Imbecility' is difficult of exact definition, and the class of which I am now speaking is certainly very different from the ordinary imbeciles and idiots met with in asylums, about whose condition of 'non compos' there can be no doubt. Thus, in shape and size of head and ears, arrangement and development of teeth, height of palate, power of articulation, memory, some are of first-rate order, whilst others exhibit deficiencies or defects condemning them to a lower stage of the human creation. So intelligent, indeed, are some of those of whom I am speaking, that were it not for the fact that they have no friends able to look after them, and that their motor lesion has deprived them of the opportunity of learning and pursuing a trade, thus making them dependent upon external assistance, there would be no reason for detaining them in an asylum.

Just as some are rendered idiotic by 'deprivation,' from obscuring of one or more of the special senses, leaving but small means for objective stimulus to the brain, so are these, who otherwise show much intelligence, prevented from developing to the extent they might otherwise have done, owing to the impediment that this constant muscular movement has placed in their way. Continuous rhythmic movement being, then, the characteristic feature, it is as well to describe first of all of what it consists.

Dr. Hammond says: 'There are several diseases one of the chief manifestations of which is involuntary movement, the

consciousness of the patient remaining intact. Ἄθετος signifies inability to keep the fingers and toes from continual action. Not disorderly, like hysteria and chorea; not tremulous, like paralysis, agitans, and various forms of sclerosis. They are regular, and to some extent under the control of the will. They continue during sleep (?). There is pain in the affected parts; the sensibility of skin is lessened, and a feeling of numbness prevails over the side of the body corresponding to the disordered motility. Of the six cases known to me, two have been women.'

Dr. Gairdner's description is good, and runs as follows:—'Sometimes the wrist is strongly flexed and at other times it is strongly extended, and very often the fingers are in precisely the opposite position to the wrist; sometimes individual fingers are flexed while others are extended, and all more or less rigid. Under favourable circumstances he can perhaps control every muscle of his arm; but when the rigidity or spasm comes on, particular groups are, for the time being, wholly withdrawn from the will, or nearly so. They scarcely ever cease except in sleep. By using a certain amount of force you can always overcome the spasm in opening successively the fingers of the closed palm, but an attempt to overcome the spasm of one group of muscles is very apt to set it off in the opposite direction. It seems like incontrollable muscular impulse, without paralysis and without permanent spasm or rigidity, a quasi rhythmic spasm, somewhat resembling the peristaltic movement of the involuntary muscles in the alternating or successive affection of groups of muscles.' Neither here, however, nor in Dr. Hammond's cases, is any mention made of movements in the muscles of the head, neck, or face, which in my instances are well-marked, and resemble in character those of the forearm and fingers. They consist of a slow protrusion of the head forwards and upwards, to one side or the other, and of its retraction downwards and to the other side. As might be expected, the muscles in the sub-occipital triangle are hypertrophied like those in the arms. The facial movements are very extraordinary, and give rise to varying expressions, the most frequent being that of a broad grin, owing to spasms of the retractors of the angles of the mouth and the 'laughing muscles,' the zygomatics, and the lower fibres of the orbiculares palpebrarum, which raise the lower eyelid slightly; the forehead, too, is wrinkled. To this succeeds—or may succeed—a comparatively blank look, from relaxation of these muscles, but the

marks of the wave are shown in the furrows left, giving an appearance of age greater than is actually the case. Not that an expression is developed suddenly, for it often happens that one emotion appears to be merged into another, owing to the vermicular manner in which the wave progresses; thus the occipito-frontalis may contract, elevating the eyebrows and giving the expression of wonder, which expression may directly afterwards pass into that of a broad grin, by the contraction of the retractors of the mouth and lower jaw, displaying the interior of the mouth and the teeth. As the corrugator supercilii, or grief-muscle, may also be excited by the wave passing over the face, the expression caused by it mixes at times curiously with the others. It does not appear that the emotion corresponding to the contraction of a certain group of muscles, i.e. to an expression, is excited, for the movement is very transient; and besides, it by no means follows (as some have on the contrary asserted) that the action of certain combined groups of face-muscles evokes the emotion which, as a rule, in the anatomy of expression, precedes the contraction. Persons looking at an actor whose features are strongly worked may assume a similar expression by so-called sympathy, i.e. sensori-motor action, but the emotions in these persons are by no means at all times the same. A similar state of the expression of an emotion without the existence of the emotion may be often seen in those affected with 'general paralysis of the insane,' where an appearance of grief is by no means uncommon, no grief being really felt, but the grief-muscles being put in action to assist some that are paralyzed. Like the face-muscles, those of the fingers seem independent one of the other, for not only do they bend and extend themselves capriciously, out of unison with the others, but the flexions happen now at the second, then at the proximal joint, while the fore-arm is ever on the move from pronation to supination and back again. The upper-arms are not affected to the same degree as the fore-arms and hands, and only in some are the lower extremities affected in the particular manner. I say in 'some' because, though all are impaired in gait to some extent, yet two distinct kinds of alteration may be discovered; in the one the gait resembles the 'tabic' form so often seen in the 'general paralytics;' and in these persons muscular movements of the toes resembling those of the fingers may be seen; in the other class the defect seems to be a want of co-ordinating power combined with a distortion of the pelvis, owing to spinal curvature, which is more or less pronounced in

all the cases, and consists generally of a primary curve in the dorsal region, with secondary curves in the cervical and lumbar.

The following is an analysis of the cases:—

Case I.

H. J., female, æt. 43. Not epileptic; can talk, read, and do needlework. Always been in present condition. Head continually being turned to left side and slightly upwards, through spasm of the right sterno-mastoid and the muscles in the right side of the neck. As to the face, the risorius, zygomatics, orbiculares, occipito-frontalis, are in constant motion, waves passing over them but not causing the least pain. The tongue is slowly protruded from the mouth and withdrawn; and as all these spasms are intensified when she attempts to speak, the articulation is peculiar, the mouth and tongue being dragged in different conditions under the influence of non-co-ordinated muscles. The face is much and deeply wrinkled. The right shoulder is rather more raised than the left, owing to a slight spinal curvature, and both upper-arms are held closely to her side to steady herself. The fore-arms, but especially the right one, are in constant movement of extension, flexion, pronation and supination, and the fingers in the same manner; the contraction passing in the mode described from one to all. The muscles of the fore-arm are not hypertrophied (thus differing from Dr. Hammond's cases), but they are very firm; and though she cannot squeeze very firmly, she is yet able to resist extension of the elbow, and can feed and dress herself. Gait very awkward and tabic in form; yet the muscles of the legs are firm, though small, and she can walk about for hours without assistance. In walking she protrudes the abdomen and keeps the shoulders well back to preserve the balance, very much in the same way as pregnant women. She has good light hair in abundance, and light eyes; the ears are well-shaped and symmetrical, and the teeth regular in shape, number and position, nor is the palate high-arched, differing in all these particulars from the usual characteristics of idiots and imbeciles. The head measurements, too, are good, viz. 21 inches in circumference, 12 inches from the auditory meatus of one to that of the other across the top of the head, 13 inches from the root of the nose to the occipital tuberosity. Thyroid not enlarged, and no trace of heart disease. Sensibility of skin normal, and the intelligence fair and does not deteriorate. No

DESCRIPTION OF PLATES Nos. II AND III.

FIGS. 1, 1*a*, 1*b* represent H. J. in different attitudes, following each other very rapidly owing to the wave of muscular spasm. In 1 the action of the retractors of the mouth is well seen, and in 1*a* the second, third, and fourth fingers are flexed, the index being extended. The head is seen to be pushed forward in 1*a* and 1*b*, and turned to the right or left side.

FIGS. 2 and 2*a* represent H. H. taken as rapidly as two consecutive plates could be brought to bear. The change in expression, and the alteration in the position of the head, with pronation of the arm and closing of the hand, is well seen.

FIG. 3 is to show the position assumed by the fingers, the forefinger and thumb of the right hand being extended for the moment, most of the others closed. Both in personal appearance and in movements this man closely resembles the woman depicted at 1*a* and 1*b*.

FIG. 4. L. C. The difference in the facial expression is very marked, and took place very rapidly. The right hand, which in fig. 4 is clenched, is seen the next moment to be open and changed in position.

history of chorea or other nervous affection of any other member of the family can be obtained.

Case II.

H. H., female, æt. 32, of light complexion, with very good eyes; not epileptic, good teeth, ears, and palatine arch. Slight dorsal spinal curvature to the left side. Face much drawn towards the left side, and spasms of risorius, obiculares, occipito-frontalis, &c. The transverse section of the mouth is very large, and the difficulty of talking proportionately great. Her intellect is not so developed as in the last case, and though able to feed and dress herself, she cannot read or write. The waves of muscular movements in the extremities are much as those in the last case, and the tongue is protruded and withdrawn just as the head of a tortoise is pushed forward from the shell. The gait is awkward, and balance is preserved by pushing forward the abdomen. Thyroid natural; heart-sounds perfect. Head measurements good, viz. 20, 12, and 11 inches in the three directions of circumference, across, and antero-posterior. No history of chorea in the family, nor is there any trace of delusion or hallucination; simply a congenital feebleness. The muscular movements cease during sleep.

Case III.

L. M. D., female, æt. 17. Light complexion; can talk, feed, and dress herself, and has the use of all senses. Not epileptic. Hair very long and silky. Ears, teeth, palatine-arch, and head measurements very good, the latter being, on the above-mentioned scale, 19, 11, and 12 inches. Neither here nor in any of the other cases are there any traces of rickets. Moves her head slowly about, and the face-muscles are always on the work. No heart disease. Her sister cannot account for the condition, and says that there is no history of any nervous taint in the family.

Case IV.

L. C., female, æt. 16. Does not speak, but can hear. Dark complexion. Teeth very good and regular. Not rickety. Head measurements are 19½, 11, and 12 inches. Neck and head always on the move, being pushed slowly forwards and from side to side. Mouth very wide and open, owing to the retractors being always on the move, and thus a laughing expression is nearly always present; but she can cry and shed

tears. Fingers and fore-arms in constant gliding motion, and the arm-muscles are very firm and well nourished. No spinal curvature. Heart-sounds good. No history of chorea.

Case V.

M. R., female, æt. 44. Reads, but cannot write. Can feed and dress herself. Memory good, and she is generally very intelligent. Light complexion. Head moves constantly from side to side, and the fingers and toes are always going, nor can she hold her arms steadily at right angles to her body. Tongue unsteady. Head measurements very good, viz. 20·5, 12·5, and 13 inches. Legs straight, and there are no traces of rickets, but she walks with an incoherent *quasi*-tabic gait. Heart-sounds perfect, and there is no history of chorea. Sensation normal.

Case VI.

W. B., male, æt. 24. Deaf mute; not epileptic; very light complexion. Constantly moving his head to the left side, and the left angle of the mouth and side of the face are always on the move in the same direction. Teeth regular, but small. Good palatine arch. Very characteristic position of the hands, viz. flexion of both of them on the wrists and extension of the fingers, varied by the opposed movements. The spasm does not extend to the upper-arm. Muscles at the back of the head are much developed, owing to constant movement of the head from one side to the other. All these movements are executed with great rapidity, one after the other, when he becomes excited. The spasm extends to the toes, and he shuffles along in an awkward manner, one leg seeming to get in the way of the other. Head measurements are 21, 13, 12·5 inches.

Case VII.

H. H., male, æt. 33. Not epileptic. Light complexioned. Is dumb, but can hear, and can use the deaf and dumb alphabet. Feeds himself, and is quite clean in his habits. Very slight, if any, curvature of the spinal column to the right side in the dorsal region. Head constantly moving about, and chiefly to the left side. Orbiculares and occipito-frontalis constantly twitching, as are also the muscles of the hands and fingers, in the manner above described. The fore-arm and the sub-occipital muscles are very firm and large; teeth good and regular, and palatine arch small. Plenty of hair on the chin

and lip. Clumsy inco-ordinated walk, shuffling along, and apparently in danger of falling, though he can walk for a long time, and never actually falls. Heart-sounds perfect, and there is no history of chorea.

These seven cases clearly resemble in the peculiarity of the movements those called 'Athetosis' by Dr. Hammond; but here the likeness ends, for a summary of the symptoms in his cases (given in his own words) is: 'They come on with epileptic paroxysms, a feature accompanying other organic diseases of the brain and spinal cord. In both there are similar head-symptoms, tremulousness of the tongue, numbness in the affected side, pains in the spasmodically-affected muscles, and especially complex movements of the fingers and toes, with a tendency to distortion. There is no paralysis. The phenomena indicate the implication of the intra-cranial ganglia and the upper part of the spinal cord, and the analogies are with chorea and cerebro-spinal sclerosis. The probable seat of disease is the corpus striatum.' I prefer, then, to use the term imbecility with ataxia, leaving that of athetosis to designate those where the muscular movements come on as a disease subsequent to a previous state of good health. The disease most closely resembling it is chorea, but the distinction is, on a careful examination, well marked. Thus in imbecility with ataxia no history of chorea can be traced, even in the other members of the family; there is no sign of heart disease, and the muscular movements differ toto cælo from those of chorea. In the latter there is not the wavy gliding movement resembling the peristaltic action of involuntary muscle, and the jerkings are more sudden, rapid, and unexpected, so that it is quite impossible to say which muscle will be next affected.

In ataxic imbecility one part of a muscle may be quite at rest, the other being in motion, but in chorea the whole of any muscle that is affected acts at once and suddenly. The mode of speech is another element of diagnosis; for in choreic insanity the words are jerked out in a quick; decisive manner in imbecility with ataxia they are drawled out in a manner due obviously to the slow and gradual manner in which the angles of the mouth are retracted. In both diseases the movements cease during sleep. Chorea, if long continued or existing to any great extent, leads to a condition of dementia more or less complete; but here, though there is a congenital feebleness of intellect, this feebleness does not increase; on the contrary, when educated, the subjects of it show considerable intelligence, and never descend into such a degraded form of insanity as

those demented from chorea do. In its early stages the prognosis of the curability of chorea is good under the influence of well-known remedies, but in the other disorder medicines are of no use. Galvanism and tonics have no effect; indeed the general health is always excellent, and they may live a long time. A female patient in the Hampstead Asylum—a good instance of the condition in question—is more than sixty years old.

From others of the idiotic and imbecile class the line is well drawn, for in these ataxic persons the head is of ample measurements and good shape; the teeth and ears (always defective in the idiot) are excellent, and the palate is not arched, neither is there any constitutional taint of rickets, scrofula, or syphilis to be noted. The cause is at present a mystery, but of the very definite character of the group of cases there is no doubt. When an opportunity offers, the cervical portion of the cord, the nucleus of the seventh pair of nerves, and the corpora striata, should be examined, as being the lines in which any existing lesion would probably be found. The interest of these cases is that of a distinct physiological group marked by sharp lines; for, to begin with, the facial resemblance is very strong; they might, as the appended lithographic plates show, be members of the same family; then the similarity of the movements in all the cases, the mode of speech, and so on, point to a definite central lesion of the same kind in all, whilst it is not often that we are able to isolate certain cognate specimens from a large group of congenitally-affected cases, the mind and its manifestations being so wide and various that few groupings have been possible. But, in addition, this class of ataxic persons has an interest of its own in the large amount of sympathy and patience it calls for, appearances being so very adverse. I have often been surprised at their powers of perception and memory; and the necessity of an early diagnosis is apparent, for the subjects of it are, some of them, very susceptible to their own deficiencies, which have arisen chiefly from want of education. Chorea has been termed an 'insanity of the muscles;' but if by this is meant an analogue to incoherence of speech, then the ataxia in question is again different, for the movements are by no means incoherent; they are, on the contrary, regular and constant.

It is not uncommon to meet, in asylums for the feeble-minded, with persons of fair intelligence who, owing to early epilepsy or softening, have the extremities of one side and the face muscles of the same side contracted. From the early period

at which this has come on, an atrophy of the affected side has resulted, with consequent hypertrophy of the sound side. Under excitement the face is much distorted, and irregular movements, resembling the tremor of paralysis agitares, ensue. This class of cases (not a small one), when carefully examined, differs in many respects from that just discussed. They are as a rule quite up to the average of intellect of persons in their own sphere of life; and were it not for the fact that they are the children of poor parents who are unable to support and educate them, they would never be sent to an asylum. As it is, they first go to the workhouse, whence they are sometimes sent to the parish school and taught, but most often they remain in the 'imbecile wards' until an opportunity occurs for removing them to an asylum.

Article X.—*Cases from the Ophthalmic Wards.* By James H. Stowers.

Case I.—*Extensive Injury to the Eye by strong Acetic Acid.*

Wm. A., æt. 19, while working with a syphon at a vinegar works, was splashed with acetic acid upon the surface of his left eye. The conjunctiva and cornea were rendered quite opaque, and almost gelatinous, being of a yellowish leather-like appearance. The whole globe became somewhat increased in size. $L\,v$ = can count figures. $L\,T = -2$. The patient, had been attended some days as an out-patient at a neighbouring hospital, but was admitted into St. Bartholomew's on January 15, and discharged on the 27th to be an out-patient, the eye being in much the same condition. Hot soothing fomentations had been applied while in the Hospital.

July 1873.—The condition of the eye has by this time much improved, the conjunctiva having in a great measure reassumed its natural condition, though still much thickened. Cornea hazy, but smooth. Iris fairly visible. Pupil (so far as could be seen) natural. $L\,v = \frac{4}{200}$. $L\,T = -1$. Can read No. 5 (Snellen) at 4 inches.

This case illustrates well the peculiar action of acetic acid upon the conjunctiva. As compared with other acids the destructive effect is mild; the strong mineral acids would no doubt have completely disorganised the tissues. Had the injury

been effected with other caustics, or escharotics, a condition of anchyloblepharon would probably have been the result. The fact that a certain amount of vision remained, and afterwards improved, is also worthy of note.

CASE II.—*Lachrymal Fistula. Silver Style worn for five years, causing discolouration of surrounding skin.*

Elizabeth P., æt. 39, was admitted March 24, 1873, with a fistulous opening situated below, and to the outer side of the left lachrymal sac. She had suffered from obstruction in the nasal duct for 13 years. Eight years ago an abscess had formed, and burst at the inner cauthus, and three years after a silver style was introduced through the fistulous opening that remained, and has been worn ever since. Much discolouration of the integument of a blackish-grey tint around the opening followed the contact with the metallic style, which has become permanent.

March 25.—A canaliculus knife was introduced through the lower punctum, the style having been withdrawn, and the canaliculus was opened up. An attempt to pass a small probe failed, as it came in contact with tissue blocking up the commencement of the nasal duct. The knife was now re-introduced and directed downwards and backwards in the direction of the duct, which enabled a Weber's sound to be easily introduced. The style was replaced from above.

July.—The duct is now patent, a large-sized probe being easily introduced every few weeks.

With reference to this case I would draw attention to the disadvantage of wearing a style for so long a period; partly on account of the irritation and trouble that it may itself set up, and partly also from the discolouration of the integument that it produces.

CASE III.—*Wound of the Ciliary Region—Partial Displacement of Lens.*

Julia F., æt. 27, a barmaid employed at the Crystal Palace, was admitted into the Hospital on June 23, with an incised wound of the left upper eyelid, sclerotic, and cornea, caused by the bursting of a soda-water bottle, a piece of glass striking her. A small rectangular wound was seen upon the upper eyelid corresponding to the site of the wound in the globe through which the glass had penetrated. The wound in the sclerotic situated at the upper edge of the cornea, and a little

to the left of the middle line, measured about one-third of an inch in length, the ciliary region and upper margin of the cornea being involved. The edges of the wound, which were separated to the space of one line, were even in appearance, and some of the vitreous humour had escaped. The upper portion of the central margin of the iris was displaced a little upwards, thus altering the shape of the pupil. The sclerotic coat was much congested, and the conjunctiva considerably chemosed and injected. Some blood was said to have issued from the wound in the ciliary region when inflicted. The lens, so far as could be seen, appeared clear, and not displaced. Mr. Power, on finding that the patient could just distinguish light from darkness with the injured eye, notwithstanding the damage done to the ciliary nerves, &c., decided upon trying to save the eye, and the patient being placed under the influence of chloroform, introduced two very fine black silk sutures through the conjunctiva only, and brought the edges of the wound evenly together. Three fine sutures were also placed through the wound in the eyelid, and a cold wet pad and bandage applied.

June 30.—*L v* = Can count fingers 2 inches from eye. *L T* = −1.

July 10.—Wound in sclerotic healed. *L v*=Can count fingers at 18 inches. *L T*=N.

Ophthalmoscopic Examination.—With oblique illumination some little lenticular opacity can be seen.

With reflected light the extreme outer and inner sides of the fundus can be illuminated, though occasionally, when the head of the patient moves, a dark body can be seen which appears to float, and move slightly from side to side. It is apparently the lens dislodged and tilted up from below, and which prevents the illumination of part of the fundus.

July 29.—Conjunctiva and sclerotic quite natural, with the exception of the cicatrix, left as the result of the wound. Pupil even and round, dilates well with atropine. With the ophthalmoscope the dark body which was seen when eye was last examined appears shreddy in consistence, and to hang suspended by the upper part, waving freely from side to side when the head is moved. Immediately to the left, but somewhat behind, can be seen a small white patch of sclerotic with a margin of bright red colour (blood). Vitreous humour still turbid. *L v*=N. *L v*=Can count fingers at 9 feet.

CASE IV.—*Traumatic Dislocation of Crystalline Lens.*

Sarah A., æt. 43, married, was admitted into Alexandra Ward on May 31, with the history that on April 24 she was struck twice over the right eye with a fist, giving rise at first to little discomfort, but on the following day the whole globe became extremely painful, and she sought relief. She had repeatedly been struck with great violence over both eyes before.

Condition of the eye on admission.—Conjunctiva and sclerotic much congested. Iris tremulous, pupil dilated. Anterior chamber very shallow. With oblique illumination a streak is seen across the lens, due to probable rupture in anterior lens capsule. $R\,v = \frac{4}{7\,0\,0}$. $R\,T = +1$.

June 3.—An iridectomy was performed upwards in the usual way, a little vitreous humour escaping through the incision, probably finding its way through rent in suspensory ligament.

June 6.—$R\,v = \frac{5}{2\,0\,0}$. $R\,T = \mathrm{N}$.

June 19.—$R\,v = \frac{1\,0}{2\,0\,0}$.

June 21.—Condition of eye much improved. New pupil quite regular. Anterior chamber almost obliterated, consequent upon what with oblique light can be distinctly seen to be the displaced lens of a slightly hazy appearance. The lens is now situated below, to the inner side, and in front of its normal position.

Disc and vessels very indistinctly seen, in consequence of the altered refraction of the lens. $R\,v = \frac{5}{1\,0\,0}$. $R\,T = \mathrm{N}$.

July 15.—Lens partly opaque. $R\,v = \frac{8}{2\,0\,0}$.

Sept. 8.—Re-admitted into Hospital in consequence of slight irritation in left eye. $L\,v = \frac{1\,2}{3\,0}$.

Sept. 9.—The lens of right eye removed by operation, it having become quite opaque.

CASE V.—*Sclero-Choroiditis Anterior of both Eyes. Dislocation of Left Crystalline Lens from a Blow.*

Lydia D., æt. 36, was transferred from Lucas to Alexandra Ward on July 18, 1873, with the following history:—On the 15th ult. she received a violent blow upon the left eye with the heel of a boot, which caused her much pain, and some loss of blood from the injured eyelids.

July 18.—*Condition of left eye, &c.* Conjunctiva congested.

Cornea prominent, slightly hazy towards centre. Anterior chamber deep. Iris tremulous. Lens displaced backwards, and downwards into vitreous humour; can be seen occasionally on movement of axis of globe.

Optic disc irregular with apparent processes around margin, hazy, blood effused on upper part.

A white spot of atrophoid choroid seen on apparent inner side of disc. Evidence of old iritis present. $L\ v = \frac{4}{5^{0}}$. $L\ T = +1$.

The condition of the right eye, the sight of which was destroyed by a blow fourteen years ago, presents the following: cornea very prominent, anterior chamber very deep. Iris acts fairly well. Lens semi-opaque, sufficiently so to prevent fundus being examined. $R\ v =$ Nil. $R\ T + 1$.

The patient is a poorly-nourished, emaciated looking woman. She was confined six weeks since. No clear history of syphilis.

August 2.—Left eye in quiet condition.

I have given the details of Cases III., IV., V. somewhat fully, as in the consideration of them several points of great interest arise. I will first say a word as to wounds of the sclerotic. Wounds of the sclerotic and cornea are in general so fatal to the injured eye, and the amount of injury done so extensive, that the surgeon is pretty well guided as to the immediate course of treatment to pursue. When the rent is large, and much vitreous humour has escaped with or without the lens; when the globe is either collapsed or filled with blood, and the vision is quite lost, and it may be the retina detached also, especially if the cornea is severed to a greater or less extent, an abscission or excision must be performed; but when, as in Case III., the damage done although severe is not so extensive, the lens not apparently displaced, and perception of light still exists notwithstanding the implication of the cornea, it is indeed an important matter to decide what to do for the best. The chances also of sympathetic ophthalmia taking place in the uninjured eye stand prominently before one. In the case which I have narrated, Mr. Power, although at first entertaining the idea of performing abcission of the anterior half of the globe, decided upon closing the wound as well as possible, and, by narrowly watching, endeavour to save the eye; partly because perception of light remained and the lens was not apparently dislodged, and partly because the wound being vertical in direction, and clean cut, did not divide many of the

ciliary nerves. Fine silk sutures were placed through the conjunctiva only, and the edges brought fairly together. This gives rise to the question whether in such injuries stitches should be placed through the sclerotic. In passing them through the conjunctiva only, it certainly does away with the necessity of exercising more pressure on the globe when introducing them than otherwise would occur, together with the disadvantage of separating the edges of the wound. Moreover they take a shorter time to come away, and consequently do not set up so much irritation. Nothing can, I think, be more satisfactory than the result obtained here. The tension, at first minus, soon became normal; the congestion, &c., quickly disappeared; the wound healed, and in seventeen days from the date of injury the patient could without difficulty count fingers correctly at a distance of eighteen inches. The last examination shows that the lens is becoming absorbed, and with the aid of a powerful bi-convex glass her vision will no doubt be much improved. A point of interest is also the length of time that the blood surrounding the patch of sclerotic which is now seen with the ophthalmoscope has remained unchanged.

Concerning dislocations of the lens into the vitreous humour in general, a great deal has been written by ophthalmic surgeons. Suffice it to say how much we must depend upon the ophthalmoscope to assist in making a diagnosis. It is not always so easy a thing to determine whether in a given case the lens if *clear* is in its normal position; but in order to be able actually to see it lying loose in the vitreous humour, either at the most dependent, or any other part, the advantages of so simple but valuable an instrument are clearly set forth.

Case VI.—*A large Vascular Sarcomatous Growth from the Cornea.*

Sarah W., æt. 60, was admitted into Alexandra Ward March 12, 1872, on account of a vascular fungoid growth from the entire front of the left eye. About three years ago she came to Mr. Vernon, complaining of a small warty growth, about the size of a split pea, springing from the junction of cornea and sclerotic. It had existed for twelve months, and had slightly increased in size, in spite of constant applications of nitrate of silver and other caustics. The vision at that time was perfect, the eye itself apparently being quite healthy. The

growth was shaved off, leaving the cornea beneath it opaque, bleeding, and evidently involved. For six months there was no recurrence, but at the end of that time it re-appeared, and though it has undergone many applications of caustic, it has steadily grown to its present size and condition. There is now a fleshy lobulated mass as large as a walnut projecting from between the lids. It moves freely with the eye-ball, and seems to sprout from the entire front of the eye. When held forwards, however, the orbit appears healthy and the sclera uninvolved. It causes her little or no pain, but at times there is troublesome bleeding from its surface. She is a stout, full-bodied woman, with florid appearance. Her general health has been good, with the exception of occasional winter coughs.

On March 19, the patient being under the influence of chloroform, a large curved glover's needle, armed with stout silk, was passed completely through the eye. Traction being made with this in an inward direction, the conjunctiva was separated all round the tumour, and the muscles divided, and on passing the curved scissors behind the eye-ball and dividing the optic nerve, the globe easily shelled out. Hæmorrhage very considerable.

Examination of the extirpated globe.—On section the contents of the globe were throughout quite healthy. The tumour was seen to be limited to the cornea and subconjunctival tissue at the corneo-sclerotic junction. The cornea was not perforated anywhere, but the tumour was firmly attached to its surface. On section for microscopical examination the growth was seen to be moderately firm and vascular, having the general appearance of a fibro-sarcoma, many round and spindle-shaped cells being present.

The specimen is preserved in the Hospital Museum, Series IX. Prep. 82.

Case VI. points first to the rarity of tumours growing from the cornea, but which had undoubtedly in this case spread from one of the ordinary small fibrous growths which are not uncommonly seen springing from its margin.

When first seen, on March 12, a difficulty arose as to its nature, insomuch that in consequence of the changes that had been brought about in its general aspect and colour by the application of caustics, together with its extreme vascularity, it was generally believed to be malignant, and to involve the interior of the eye. Its vascularity was due partly to her

general plethoric condition, as shown also by the hæmorrhage which followed the removal of the globe.

As was afterwards proved, an abscission would have been sufficient for the complete removal of the tumour.

Article XI.—*On some Points in the Surgical Treatment of Intra-peritoneal Injuries.* By Thomas Smith.

THE object of this paper is to draw attention to the records of ovariotomy, in order to ascertain if fresh information cannot be gained therefrom respecting the surgery of the peritoneum, if I may so term it; that is, the behaviour of that membrane under different kinds and degrees of irritation; and to enquire if we are not justified in modifying very considerably our treatment of some of the diseases of the peritoneum, and our manner of dealing with some of the mechanical lesions of its contained viscera.

It will generally be conceded that the chief danger of ovariotomy consists in the fact that the disease has to be removed from within the cavity of the peritoneum—a membrane highly resentful of such mechanical injuries as are inseparable from the operation, and having an extraordinary capacity for rapid absorption; and that, as a consequence, peritonitis and blood-poisoning are the chief causes of death.

Of the 127 deaths that occurred among Mr. Wells' 500 cases, 46, or 36·22 per cent., were due to peritonitis; 29, or nearly 23 per cent., were ascribed to septicæmia.

Ovariotomists seem to be agreed that the mechanical injuries inflicted on the peritoneum by the operation—such as incision, handling, sponging, abrasion, and laceration—though serious sources of danger, as predisposing to peritonitis, are scarcely to be compared with the risk of peritonitis and septicæmia from the decomposition of fluids that may remain in the peritoneal cavity at the time of the operation, or be effused subsequently; and that even a comparative immunity from the last-named peril is cheaply purchased by scrupulous care in sponging the peritoneal cavity free from the fluids, and the complete arrest of hæmorrhage, even though the operation should be considerably prolonged thereby.

On this subject Dr. Peaslee writes: * 'To thoroughly cleanse

* 'Ovarian Tumours,' p. 477.

the peritoneal cavity of all fluids left there by the operation, before closing the incision, I hold to be one of the plainest and most important principles of ovariotomy . . . . and the reason for the removal is that otherwise they may produce peritonitis or septicæmia. . . . . I am aware of no real objection to the manipulations necessary to effect this object, though their dangers have been paraded by those who do not apply them.'

Again, Mr. Spencer Wells' opinion is as follows:* 'Before closing the wound the peritoneal cavity must be thoroughly cleansed from any fluid or clot which it may contain. . . . . Complete cleansing can only be effectually attained by using many clean soft sponges in succession, passing them well down behind and in front of the uterus, along each flank in front of the kidneys, and over the abdominal wall, wherever adhesions have been separated. . . . . When I began to insist on the importance of this process, other operators said that it was unnecessary or injurious; that ovarian fluid in the peritoneum was harmless; or that the time lost in removing it, and the irritation caused by the sponging, were greater evils than a little fluid or blood left in the cavity. . . . . I have regretted incomplete sponging, never that I had been too careful.'

It will be allowed that from the condition of the peritoneal surface alone, as disclosed at the time of operation, one can judge but little of the prospect of recovery, and that it is even now not quite certain what condition of the peritoneum is most conducive to a favourable issue. The surface may be (*a*) healthy and in all respects natural; it may be healthy, but from the previous distension of the cavity by ascites it may have become permanently overstretched; it may be (*b*) granular or adherent from by-gone inflammation; it may be (*c*) acutely inflamed or even suppurating: under which of these conditions does the patient run the least peritoneal risk? I mean, of course, risk from peritonitis and septicæmia.

Now with regard to the first-named condition as influencing the occurrence of peritonitis after ovariotomy, information can be gained from Mr. Wells' tables. Among his 500 cases there are 296 in which we may assume the peritoneal surface was healthy—that is, there were no adhesions—and of these the mortality was 19·93 per cent.; while there were 204 cases where there were extensive adhesions, and where we may therefore

* 'Diseases of the Ovaries,' p. 383.

assume there had been some old peritonitis, and of these the mortality was 33·33 per cent.*

At first sight it might appear that these results furnish overwhelming evidence in favour of the lesser susceptibility of a healthy serous surface to traumatic peritonitis and septicæmia, but the evidence becomes less conclusive when we consider that the cases where adhesions existed include among them all those where the tumour had to be separated from the omentum, pelvis, intestines, or other viscera, and where hæmorrhage, otherwise than from the pedicle, had to be controlled, and where there was the greatest risk of septicæmia from blood and other fluids gaining entrance to the peritoneal cavity; in fact, all the more serious and complicated cases; while, in the first category—the non-adherent cases—there would be many other circumstances conducive to a favourable issue besides a healthy peritoneum, viz. a more rapid operation, a comparatively small incision, but little risk of contamination of the peritoneal cavity by the contents of the cyst at the time of the operation; or of hæmorrhage subsequently.

On the question under consideration, Dr. Peaslee remarks: † 'I concur with Dr. W. L. Atlee's opinion, that peritonitis is less likely to occur in cases where there are adhesions than where the peritoneum is wholly intact; its character is entirely changed, and it is no longer a serous membrane.'

I think that many would be inclined to agree with Dr. Peaslee (though perhaps without sufficient grounds), and to assume that a healthy peritoneal surface would have two special disadvantages as compared with one that had been the seat of old inflammation; namely, that it would be more resentful of mechanical and chemical irritation, and therefore more prone to peritonitis after ovariotomy, and that its power of absorption would be much more active and therefore there would be more danger of its being the inlet for septicæmia.

This view of the matter is not supported by such information as we can gain on the subject from Mr. Wells' tables.

Among the fatal cases in which the peritoneum was healthy at the time of the operation, 20·34 per cent. died from peritonitis, and 15·25 per cent. with septicæmia; while of the 68 deaths that occurred where adhesions had existed, 50 per cent. died from peritonitis, and 31 per cent. with septicæmia. This to my mind makes it highly probable that one's impressions are

* 'Diseases of the Ovaries,' p. 319.
† 'Ovarian Tumours,' p. 378.

fallacious, and that a healthy serous surface is not more resentful of traumatic lesion, or more liable to absorb decomposing fluids, than a surface partly altered by inflammation and partly formed by freshly-torn adhesions.

I can bring forward no direct evidence as to the effect of long distension of the peritoneum on the susceptibility of its surface to irritation or contamination; but Dr. Peaslee* states it as his opinion that 'a long distended state of the peritoneum very much diminishes its sensibility and the danger of traumatic peritonitis,' and he mentions that Dr. Black agrees with him in this.

The results of operations for ovariotomy performed during the progress of acute peritonitis are (so far as they go) very remarkable; and as they bear directly on the subject of this paper, I shall notice them somewhat in detail.

CASE I.—*Ovariotomy during the progress of Acute Peritonitis, with the Ovarian Tumour in a state of Gangrene.*†—*Recovery.*

Dr. Keith operated under the following circumstances:—Symptoms of inflammation of the cyst and peritoneum having set in soon after tapping, the operation was undertaken at the end of a week, as the only chance of saving the patient's life. The intestines were found distended by flatus, thickened in their coats, of a dark cherry colour from congestion, adherent to one another by freshly-effused lymph, 'and in a high state of inflammation.' The bleeding was profuse, so much so that at the end of the operation (which lasted nearly two hours) the intestines had regained their natural colour. The improvement after the operation in the patient's condition was almost immediate; in three weeks' time she was out of her bed. She made a good recovery.

CASE II.—*Ovariotomy during Acute Peritonitis, with Suppuration of the Ovarian Cyst.*‡—*Recovery.*

Dr. Tracey, of Melbourne, operated on a woman æt 31, in a hectic condition, with a temperature of 102°, pulse 120, with all the symptoms of diffuse peritonitis. He removed a multilocular, semi-solid, ovarian tumour, almost universally adherent. The peritoneum was deeply congested, much thick-

* 'Ovarian Tumours,' p. 343.
† 'Lancet,' 1865, vol. i. p. 36.
‡ 'Transactions of Royal Med.-Chir. Soc.' 1873, p. 84.

ened, and full of flaky lymph, which was scooped out in large quantities. After the operation there was a rapid subsidence in the temperature, and the patient's recovery was speedy and complete.

CASE III.—*Ovariotomy during Acute Peritonitis, with Inflammation of the Cyst.*—Recovery.*

Mr. Teale performed ovariotomy on a patient who had been tapped seventeen days previously; the tapping was followed by symptoms of cyst inflammation and acute peritonitis; she had frequent rigors, vomiting, abdominal pain, and a temperature of 105°. At the operation several pints of ascitic were found in the peritoneum; the serous surface was red and coated with recent lymph, which glued the intestines to the abdominal wall; the cyst contained stinking gas and fetid fluid. The patient made a speedy and complete recovery.

CASE IV.—*Ovariotomy performed in the Fourth Month of Pregnancy, after Rupture of the Cyst and Peritonitis.†—Recovery.*

This operation was performed by Mr. Wells on a patient æt. 36, into whose peritoneal cavity an ovarian cyst had burst, giving rise to peritonitis. Mr. Bateman, who relates the case, states: 'Pain, tenderness, raised temperature, rapid pulse, dry tongue, and sickness, all pointed to diffuse peritonitis.' Under these circumstances the operation was performed. There was general injection of the peritoneum, but no recent lymph; there was some omental adhesion. Mr. Wells was extremely careful to cleanse the peritoneal sac thoroughly of all ovarian fluid by repeated sponging. The patient made a speedy recovery.

There are many cases recorded of successful operations performed during the inflammation and suppuration of ovarian cysts, where the temperature was high and there were symptoms of general pyrexia; but in these the peritonitis, if it existed, was subordinate to the cyst inflammation, and therefore I do not quote them.‡

In a paper published in the 'Medical-Chirurgical Transactions,' vol. lii. p. 208, Mr. Wells makes the following remark:—'I have operated successfully more than once, when

* 'Lancet,' 1873, vol. i. p. 906.

† 'Lancet, 1866, vol. ii. p. 400.

‡ *Vide* three cases by Mr. Wells, 'Med. Times and Gaz.,' 1872, vol. i. p. 95; also 'Ovarian Tumours,' by Dr. Peaslee, p. 262.

rupture of a cyst into the peritoneal cavity has been followed by diffuse peritonitis;' and in Mr. Wells' table of 500 cases, in 22 the cyst is stated to have been ruptured, and therefore presumably more or less peritonitis existed in some of them; yet even in these the mortality was not excessive, since 111 recovered and 8 died.

Though we are scarcely warranted, from the evidence of so few cases, in concluding that the existence of acute peritonitis is a favourable condition for the performance of ovariotomy, yet I think we are fully justified in assuming that the operation in these cases exercised a decided beneficial, if not curative, effect on the progress of the peritonitis.

On this subject Dr. Peaslee thus expresses himself:—

'Peritonitis resulting from the bursting of an ovarian cyst does not preclude ovariotomy; on the contrary, it should as a rule be regarded as a reason for its very prompt performance.'

Mr. Spencer Wells, in discussing this question, makes the following statement:*—

'In several of my cases of ovariotomy, the operation was performed after the cyst had burst, and its contents had escaped into the peritoneal cavity. The peritoneum has been found intensely red, thick, soft, or villous, and occasionally covered by loosely adherent flakes of lymph. Yet the result has been surprisingly satisfactory. The irritating cause having been removed, the irritation has subsided. If the cause had not been removed, death must have happened at no distant period, as all the general and local symptoms of chronic diffuse peritonitis had, in the whole series of cases, followed the rupture. Twenty-four times has this complication presented itself out of the last three hundred of my operations. Five of the patients have died, so that the ordinary mortality of mixed hospital and private cases does not seem to have been much augmented. At any rate, the bursting of the cyst, or the filling of the peritoneum, by oozing from the puncture made by tapping the cyst, is no bar to the operation of ovariotomy, but rather a reason for doing it without delay. The fluids found in the peritoneal cavity have been of all kinds, simple, bloody, and fetid; the cyst walls in all stages of degeneration, some even nearly black with ragged-edged openings; and the peritoneum always with the same signs of inflammatory action, though perhaps in the fatal cases the semi-organised lymph patches were more general.'

* 'Diseases of the Ovaries,' p. 79.

As bearing on the main object of this paper, I here refer to a source of danger that occasionally arises after ovariotomy, and to its treatment. During the progress of cases, after the performance of the operation, it has often happened that patients have been completely relieved from very alarming symptoms by the spontaneous bursting of the wound and the escape of bloody, purulent, or other fluid from the peritoneal cavity. Acting on a knowledge of this fact, the wound has often been re-opened, giving exit to fluid, to the great advantage of the patient. Again, life has been endangered by collections of decomposing fluid low down in the pelvis, and the danger has passed away on the escape of the fluid, either by puncture through Douglas's space or by suppuration and spontaneous rupture.

It is with the view to avoid these dangers that some ovariotomists have introduced drainage tubes of various kinds, or tents, into the wound at the time of operation, where there is reason to fear that blood or ascitic fluid may collect in the peritoneum. Indeed, one ovariotomist has such a dread of septicæmia from this cause, that he practices and recommends the introduction of a drainage tube through Douglas's space into the vagina at the time of the operation in every case of ovariotomy.*

One would imagine that septicæmia developed after the performance of ovariotomy, from the causes just alluded to, would defy the resources of even ovariotomists. But Dr. Peaslee,† with a happy audacity, has conceived and successfully put in practice, a plan for meeting this emergency, by what he terms 'intra-peritoneal injections.'

That there may be no mistake as to the identity of the disease, he defines septicæmia to be indicated by loss of appetite; coated, dry, then red or dark, tongue; great debility, not otherwise to be accounted for; rapid, small and weak pulse; dry hot skin; dizziness; a tendency to sleep; and a typhoid expression of countenance. Finally the urine may become ammoniacal; there may be urticaria, or roseola, and mucous diarrhœa; and at last septicæmic pleurisy or pneumonia.' He remarks: 'Many operators have considered a patient as doomed who presents the symptoms just enumerated. . . . . In a few cases, however, the patient has been sustained until the decomposing fluid found for itself an exit from the peritoneal cavity.' And he refers to instances where Dr.

* 'On Ovariotomy,' by J. Marion Sims, M.D.

† 'Ovarian Tumours,' p. 509.

Keith and Mr. Wells have, under similar circumstances, removed decomposing fluid from Douglas's space with good effect. Dr. Peaslee's plan consists in the removal of decomposing blood clots, or noxious fluids, by frequently repeated washing through the wound by means of a long tube passed down into the pelvis. He uses for this purpose either a solution of salt and water, ʒj. ad oj., or a drachm of liquor sodæ chlorinatæ to a pint of water; or the above-mentioned saline solution with a grain of carbolic acid added to each pint. He quotes four cases of developed septicæmia treated by this method, of which three were cured; and two cases of threatened septicæmia, who also recovered. The following are illustrative cases:—

Septicæmia from decomposed ascitic fluid, cured by intra-peritoneal injections.—This was a case of ovariotomy where the quantity of ascitic fluid was very large; and expecting that ascitic fluid would continue to be secreted after the operation, Dr. Peaslee passed a gum-elastic catheter through the vagina, behind the uterus, into the Douglas cul-de-sac, corking it tightly and leaving it, in order to be able to remove ascitic fluid should occasion require it.

On the sixth day the symptoms of septicæmia appeared, and on removing the cork a small amount of very fetid fluid escaped; a quart of water at 98° (Fahr.) was injected through the tube into the peritoneal cavity, and allowed to flow back; this being done twice, the patient expressed herself as refreshed, and her symptoms improved; subsequently salt and water injections, or chlorinated soda solution, were used two or three times a day (as often as symptoms returned) for a week, when the odour of decomposition having disappeared from the fluid returning through the tube, the latter was withdrawn, and the patient recovered without any unfavourable symptom.

In another similar case, the septicæmia appearing on the 18th day, Dr. Peaslee first used a solution of salt and water and albumen; but finding the albumen became decomposed, he returned to the use of salt and water and the chlorinated soda solution. In this case it was necessary to continue the injections twice daily, and then once daily for fifty-nine days in all, when the fetor ceased and the patient recovered.

The conclusions at which I would arrive, and which the experience of ovariotomy justifies me in asserting, are:—

First. That the peritoneum may be opened; if necessary,

its contents may be handled; its surface may be freely sponged; may be treated in parts, by strong chemical styptics or even by the actual cautery; that its blood vessels and their surroundings may be tied with silk, twine, wire or catgut, and the ligatures left within its cavity; that any or all these risks may be run in the attempt to rid a patient of an ovarian tumour which threatens her life.

Secondly. That among the perils of ovariotomy none is more to be guarded against than that incurred by leaving within the peritoneal cavity an irritant fluid, or any fluid or solid in process of, or liable to, decomposition.

Thirdly. That the results of experience justify a surgeon in undertaking ovariotomy when life is threatened, either by suppuration of the cyst or by its bursting into the peritoneum; even when these catastrophes are complicated by peritonitis; and that the operation so undertaken, in addition to the relief it may afford by the removal of the ovarian tumour, has a directly beneficial effect on the progress of the peritonitis.

Fourthly. That during the convalescence from ovariotomy, when life is threatened by the presence within the peritoneum of decomposing or virulent fluid, it is expedient to give exit to such fluid, and to take means to prevent its re-accumulation.

I now turn to the bearing that the above recorded conclusions have on the question of treatment of certain injuries and diseases implicating the peritoneum, having the strongest conviction that the orthodox rules of practice are in some particulars erroneous, and in others require reconsideration.

The following case occurred during the current year:—

A healthy man, æt. 30, received a stab. He was found with a wound an inch below the anterior superior spine of the ilium, in a line with Poupart's ligament, from which blood was issuing; he complained of great abdominal pain, was very faint and collapsed; the surface generally was blanched, and in the lower part of the belly on the left side was a somewhat resistant swelling, which was dull on percussion. The account of the case states, 'the patient died at 3 p.m., evidently from hæmorrhage.'

At the post-mortem examination the following lesions were found: the abdominal cavity was nearly full of blood which had flowed from a divided branch of the mesenteric artery; a coil of the small intestines had been completely transfixed by the knife, which had also punctured another portion of intestine lying beyond; there was no escape of intestinal contents, and but little peritonitis. It was fully obvious that this patient, on

admission, was suffering chiefly from internal hæmorrhage, and probably from a wound of some part of the intestinal canal, and the surgeon who had care of the case was fully justified in allowing matters to take their course.

But had this man's abdomen been opened during life, had the hæmorrhage been arrested, and the intestinal lesions treated according to their requirements, he would not have been in more—nay, not so much—peril as a woman after ovariotomy, with one or more ligatures on the arteries of the omentum and a wounded intestine: and we know that such cases as this have recovered;* or, to put the question in another point of view, could this patient have been placed by an operation for his relief in a condition more hopeless than that in which he was left by the orthodox surgery of the day.

In July 1868 I saw, with Mr. W. L. Shepard, the following case.† On June 29 a boy æt. 13 was struck in the belly by a cricket-ball, which prevented him from playing any more, but did not cause him to go home until an hour and a half after the injury. He then walked home, a distance of a mile or more, with but little inconvenience. On reaching home an aperient powder was given, the pain increased, and he began to vomit; before long it was evident that the patient had suffered a rupture of the intestines, and he was treated by opiates: on the seventh day I punctured his intestines with a fine trocar merely to relieve distension, and on the eighth day the patient died.

The post-mortem disclosed extensive peritonitis, and a considerable quantity of fœcal matter in the peritoneal cavity; there was a ragged opening in a coil of the small intestines lying contiguous to the caput coli, the opening being large enough to admit the end of the thumb.

In this case we were well aware from the first that the intestine was ruptured, and I can now see the error that I believe I then committed in abandoning the poor boy to his fate. Were I again consulted in a similar case I should certainly urge an operation on the same grounds, with as good a hope of success, as I should undertake an ovariotomy where the cyst had ruptured and peritonitis existed, and with a much better hope of saving the patient than can be entertained in some operations for strangulated hernia that one is called upon to perform. The operation in the above-mentioned case, I need scarcely say, would have consisted in thoroughly cleansing the peri-

* See Mr. Heath's case, 'Clinical Society's Transactions,' vol. v.

† 'Clinical Soc. Transactions,' vol. ii.

toneal cavity, and attaching the lacerated intestine to the abdominal wound. I would not underrate the possible difficulty of this undertaking; but, troublesome as the operation might prove, it could scarcely be called dangerous; that is, it could scarcely be said to add an element of danger to one whose fate was already sealed, and who was steadily and rapidly dying.

The above cases have been quoted merely as illustrations of a class of lesions the treatment of which, I am sanguine enough to think, is not altogether beyond the resources of surgery; and I am confirmed in this expectation by the records of ovariotomy, which furnish instances of the successful treatment by operation of the very same lesions, even when they were complicated by ovarian disease. In any case I venture to urge that in wounds and ruptures of the intestines, with symptoms of fæcal extravasation and traumatic hæmorrhages within the peritoneum, the practice I recommend should at least have a fair trial, and not be discarded until proved to be valueless. It could be put to the test without risk to a single life, since, under the present system of treatment, the injuries in question are necessarily fatal. Of rupture of the intestine Mr. Pollock remarks:* 'It may appear superfluous to speak of treatment when we start with the conviction that rupture of the bowels is necessarily fatal; and again, it would be mere conjecture to suppose a case of recovery probable after escape of fœcal fluid into the peritoneal sac.'

I venture to draw attention to the bearing that the experiences of ovariotomy may have on certain points in medical practice; to the possibility, in fact, that surgery may be brought to the aid of medicine in the treatment of peritonitis; and I do this with some diffidence, being conscious that one's judgment may become warped by long consideration of the subject, perhaps too much from a surgical standpoint.

The existence of peritonitis, says Dr. Peaslee, should be regarded as a reason for the prompt performance of ovariotomy, and he is justified in saying this by the result of experience; not that Dr. Peaslee would consider the existence of peritonitis a favourable circumstance, and conducive to ultimate recovery; but that an operation in such an emergency offers the only prospect, and by no means a hopeless one, of recovery.

* Holmes' 'System of Surgery,' vol. ii. p. 643.

If the above quoted dogma be true of peritonitis when it is complicated by the presence of an ovarian tumour, should the existence of peritonitis be a bar to the performance of an operation for its relief, when there is no ovarian tumour? Now, in regard to the manner in which a patient with peritonitis could be benefited by an operation, and what is the nature of the operation that could give relief, there are the following facts to be considered:—

Peritonitis may, and often does, from its severity and extent, kill in an early stage, from what may be termed shock to the nervous system; still there can be no doubt that oftentimes, in a later stage of the disease, the inflammatory exudation from the serous surface itself becomes a source of intense local irritation, or even of blood-poisoning, and that death occurs not rarely from one of these. There can now be no doubt that the poisonous character of the secretion of the inflamed peritoneum is not due to any post-mortem change. Dr. Burdon Sanderson, in his experiments on septicæmia, derived his most potent septic fluid from the great serous cavities of living animals, and used it with deadly effect immediately after its removal; and he remarks:* 'In the course of the experiments it was repeatedly observed that inflammations of a highly infective character, yielding exudation products, rich in septic microzymes, may be induced by the introduction of chemical irritants either into the subcutaneous tissue or into one of the great serous cavities, even when the liquids used are themselves destructive to the life of these minute organisms, and when all precautions are adopted to guard against the possibility of septic contamination from without.' We may conclude, then, that simple acute peritonitis may give rise to an exudation possessing septic properties; and this is quite in accordance with clinical experience.

The irritant and poisonous nature of the peritoneal secretion in puerperal peritonitis is well known, and the risk of poisoning by contact with the abdominal fluid after death from ordinary peritonitis is generally acknowledged and guarded against in making autopsies; indeed, the irritant properties of such fluid may often be ascertained by the sense of touch.

It may have occurred to others, as it has to myself, in operating for strangulated hernia where peritonitis existed, to meet with an instance when the mere contact of the peritoneal fluid was sufficient, from its irritant nature, to make one's

* 'Proceedings of Roy. Med.-Chir. Soc.,' 1873, p. 171.

finger-ends tingle. On one occasion I lost a finger-nail by suppuration, from the peritoneal fluid getting beneath it during an operation for hernia; and this occurred although means were at once taken to remove the poison by washing and sucking; here the mere contact of the fluid caused pain, while redness and swelling began within an hour or two of the operation. It is needless to speculate on the chances of recovery with fluid such as this pent up in the cavity of the peritoneum, the largest absorbent cavity in the body; it is scarcely possible that a patient should survive under such circumstances.

But it may not be out of place to ask ourselves whether the chances of recovery would be diminished or increased by the evacuation of the fluid through the operation wound, and by the adoption of some such process of cleansing as has been recommended by Dr. Peaslee in septicæmia from ovariotomy.

Again, if it be advantageous in certain conditions, when life is in peril after ovariotomy, to re-open the wound to free the peritoneum from its poisonous contents, to cleanse it, and to keep it clean by repeated antiseptic washings, who shall say, without further experience than we possess, that the same treatment would not be beneficial, under the same conditions, after the operation for hernia. One cannot doubt that after both these operations we may have the same complications to deal with and the same peril to meet, namely, septicæmia from absorption of the peritoneal contents.

When life is in danger from inflammation and suppuration within a large joint, or the pleural cavity, it is a recognized principle that surgical interference is justifiable. Does any sufficient reason exist why the same rule of practice should not be applied to the treatment of some of the diseases of the peritoneum, when life is in peril from the irritant or poisonous nature of its inflammatory products; and does not the experience of ovariatomists at least warrant us in making the experiment?

It may reasonably be objected, that even if operative interference were advantageous in wounds and traumatic ruptures of the intestines, the difficulty of an exact diagnosis as to the nature of the injury received is very great. It is on this account that I would restrict the performance of an operation to such cases as I have quoted;* where there is no reasonable doubt as to the nature of the injury, and no uncertainty as to

* See also Holmes' 'System of Surgery,' vol. ii. p. 643.

the fatal issue if matters are allowed to take their course; and since the same may be said against the performance of an operation for the relief of a patient suffering from the effects of peritonitis, perhaps it would be advisable to test the operation first in cases of peritonitis in connection with operations for strangulated hernia. In such cases the plan suggested could be put in practice with the least possible risk; for here the external wound, which is in a favourable position, would furnish every facility for completely cleansing the peritoneal cavity.*

* The following are the directions which Dr. Peaslee gives for applying intra-peritoneal injections:—

The apparatus used is simply a No. 10 or 12 gum-elastic catheter, and an india-rubber bag holding three quarts, with a tube attached to it four feet long and half-an-inch in diameter, having a stop-cock three inches from its distal end. This bag is filled with the fluid to be injected by dipping the end of the tube into the fluid, so as to make the tube act as a syphon. Next, the catheter is passed into the peritoneal cavity in any required direction, the tube is attached to the catheter, and the fluid passed through the latter into the peritoneal cavity.

By elevating the bag to different levels, the amount of pressure of the fluid can be graduated. When the peritoneal cavity is filled the surplus of the fluid escapes by the side of the catheter, and the whole three quarts may be used at once, or not, as is required. On detaching the tube from the catheter, and depressing the end of the latter, slight pressure on the abdominal walls causes the fluid to flow through it; and, by keeping its outer extremity lower than the inner it becomes a syphon, and thus entirely drains the peritoneal cavity. This process is repeated at each time, until the fluid returns as clear and as devoid of odour as it was before entering the cavity, and very frequently nine quarts have been required to secure this result. After the injection is completed, from two to four ounces of the solution of salt and carbolic acid is left in the peritoneal cavity, and the tent is re-inserted to prevent the opening from closing, or a compress is applied to absorb the fluid that may escape before the next injection. The injections are repeated daily, or oftener, till the amount of decomposed fluid is reduced to ʒi. or ʒss. during the twenty-four hours, when it may be omitted for a day, the fluid being in the mean time pressed out, and the result noted. If no fluid accumulates, nor fetor returns, in forty-eight hours, the tent may be finally removed, and the opening allowed to close; it is safer, however, two or three days afterwards to pass a smaller catheter, and turning the patient on the side, or even upon the face, ascertain once more if there is any accumulation of fluid.

Dr. Peaslee's account concludes with the following statements:—

(1) Intra-peritoneal injections of water at 98°, with the addition of liq. sodæ chlorinatæ or carbolic acid, as before explained, are entirely safe after ovariotomy in the conditions requiring them.

(2) They should be used with a curative intention in all cases of septicæmia already developed; and in all cases for prevention when it is feared, from the presence already of a fluid in the peritoneal cavity, whose decomposition will produce it.

(3) Thus used, they may reduce the per centage of deaths from septicæmia after ovariotomy from one-sixth of all who die after it, to one thirty-sixth; and increase the average success of ovariotomy four or five per cent.

(4) Intra-peritoneal injections are never to be thought of except for the purpose of removing a fluid already in the peritoneal cavity, which either already has, or assuredly will have produced septicæmia.

(5) A tent may be inserted for two or four days at the lower end of the incision,

Article XII.—*On the Changes in the Liver which follow Ligature of the Bile Ducts.* By J. Wickham Legg, M.D.

THE older physicians were well acquainted with the more obvious changes which take place in the liver after long-continued obstruction of the bile ducts. The liver was said to be itself jaundiced; its bilious or olive green colour, the diminished or increased firmness, and the enlargement or shrinking, according to the stage of the disease at which it was examined, were all noted. Sometimes it is remarked that the liver was reduced to one-third of its natural size. But since the introduction of the compound microscope as a common aid to the study of morbid anatomy, but little has been done to increase our knowledge of this state.

Setting aside the cases recorded by Handfield Jones,* Frerichs,† and others,‡ the histology of the liver in jaundice can scarcely be said to have been studied until a few years ago. In 1866 Oskar Wyss gave as the result of his labours the following statements: in jaundice, the capillary bile ducts which surround each liver cell become varicose, owing to their distension with bile; casts of these ducts are formed by the inspissated bile, which may even become crystalline: it is improbable that the liver cells become dissolved as a result of long-continued jaundice; but on the other hand there occur atrophy and a finely granular infiltration of the cells. The connective tissue remains natural in cases of jaundice which last but a short time; but in long-continued jaundice the connective tissue accompanying the large vessels becomes more or less increased, but never much; so that an overgrowth of

with entire safety, in any case of ovariotomy where the accumulation of such fluid is apprehended.

Dr. Peaslee further states that he has known intra-peritoneal injections to have been made in four instances in which nothing of the kind was called for. A good deal of pain and some shock ensued in two of the cases, which passed off in a few hours. In the other two cases no unpleasant effects resulted.

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* Handfield Jones, 'Transactions of the Pathological Society of London,' 1854, vol. v. p. 146.

† Frerichs, 'Klinik der Leberkrankheiten,' Braunschweig, 1858, Bd. i. p. 248, and Bd. ii. p. 501.

‡ Foerster, 'Würzb. med. Zeitschrift,' 1861, Bd. ii. p. 161. Liebermeister, 'Beiträge zur path. Anat. u. Klinik d. Leberkrankheiten,' Tübingen, 1864, p. 135. Klebs, Handb. d. path. Anat.' Berlin, 1869, ii. Lief. p. 425.

the connective tissue within the lobules has never been noticed.* About the same time, Leyden published his book on jaundice. He relates the results of the examination of the livers of dogs whose bile ducts had been tied. He found well marked fatty infiltration.† In one case the whole of the acinus was involved; in another the cells around the hepatic vein were those most filled with fat. This is the chief morbid appearance of which he speaks. So far as I know, nothing more on this subject has been written until the summer of last year. Heinrich Mayer then published his experiments made in the Vienna Institute for Experimental Pathology, under Professor Stricker's direction.‡ He confirms the greater part of Oskar Wyss' description of the liver in jaundice. But he finds that there appear in the liver new cells, smaller than the smallest cells of the hepatic parenchyma; these he regards as identical with pus corpuscles. With the appearance of these new cells, he observes an increase of the connective tissue, both around the vessels and within the lobules. The nuclei of the liver cells also suffer a change. He does not confirm Leyden's statement that the chief alteration in the liver is a fatty infiltration.

During the past winter I have made several observations upon the changes which follow ligature of the bile ducts in animals. The animals used were cats; these seem to survive the operation better than dogs. Most observers find that dogs live only five to ten days after. The way in which the ligature was applied was as follows:—The animal was first secured in a Czermak's holder, and chloroform given largely, so as to secure a deep narcosis. This latter point is worthy of attention, for unless the animal be completely under the influence of the chloroform, the bowels are apt to prolapse, and interfere with the success of the operation. Cats, it is well known, require a large amount of chloroform. A cut is then made through the linea alba, from the xiphoid cartilage downwards, for about two inches. Unless the animal be very large and fat, a longer cut is unnecessary: I have never made any longer than 2½ inches. Pushing aside to the left the stomach and duodenum, and raising the free edge of the liver, the bile ducts are seen coming from the liver and gall bladder. They much resemble a vein in appearance, but they will be known

* Oskar Wyss, 'Arch. f. path. Anat.' 1866, Bd. xxxv. p. 553.

† Leyden, 'Beiträge zur Pathologie des Icterus,' Berlin, 1866, p. 85.

‡ Heinrich Mayer, 'Medizinische Jahrbücher hrsgeg. von d. k.k. Gesell. der Aerzte zu Wien,' 1872. Heft ii. p. 133.

by their insertion into the duodenum, bifurcation, and connexion with the gall bladder. A ligature is then put around the common duct and tied close to the duodenum; another is tied tightly on the duct, about half an inch nearer to the liver, and the duct between the two ligatures divided by a pair of scissors, the vessel being held out from the portal vein for that purpose. In two of the cats the bile found its way again into the intestine; in the later operations, therefore, I removed altogether about half an inch of the common duct, as is done in making biliary fistulæ. The belly walls were then brought together, with ordinary sutures. It is well to place these close together, as I lost three of the cats from the giving way of the sutures and consequent prolapse of the bowels. All the operations recorded in this paper were done in the pharmacological laboratory of my friend and colleague Dr. Brunton. I am therefore glad of this opportunity to express my most sincere thanks to him for his courtesy on this, as on many other occasions.*

The livers were in nearly all cases examined microscopically the day following the animals' death. The greater number were then hardened in chromic acid; two were put into Müller's fluid at first, and the hardening finished with chromic acid; one was hardened in spirits of wine. The thin sections were immersed in glycerine. The colouring matters used were carmine, logwood and alum, and iodine. The iodine solution was used of the strength recommended by Bock and Hoffmann, as a means of forming an opinion upon the amount of glycogen present in the liver.† It also proved valuable as a means of staining the cells and leaving the connective tissue uncoloured.

When examining the livers of cats it should be remembered that in the healthy state the cells are by no means so constantly polygonal as in man. It is often impossible to see a nucleus without the help of reagents. Further, the connective tissue within the lobules is far more developed than in man. Radiating fibres pass out from the neighbourhood of the hepatic vein towards the circumference of the lobule—an appearance which might readily be mistaken for an unnatural increase in the amount of connective tissue present.

* Had I to repeat these experiments, I should choose only young, not fully grown animals, and a warm time of year. Though the cats were kept in a warm place, and the January of this year was mild, yet three of them were found dead one morning after a slight frost in the night.

† Bock und Hoffmann, 'Arch. f. path. Anat.' 1872, Bd. lvi. p. 201. Iodine 1, Iod. Pot. 10, Aq. Dest. 500.

EXPERIMENT I.

January 24, 1873.—Large tabby cat weighing 8½ lb. (3,855 grm.); very fat; bile ducts tied double and cut. The cat died probably on January 26. Examined on January 27. Weather frosty. Wound looks unwholesome, but firmly united; no traces of peritonitis whatever; liver large mottled; gall-bladder not much dilated; perfect ligature of bile ducts. Heart flabby; blood not clotted. Cortex of kidneys white opaque; under microscope epithelium in tubules has disappeared in most places, and its place taken by a granular detritus; no increase of connective tissue. Muscles very pale, yellow, and mottled; but under microscope perfect striation of pectoral muscles and of heart. Liver hardened in Müller's fluid, completed in weak chromic acid.

Microscopical Examination.—Liver cells filled with oil drops, most of small size, so that nucleus is invisible in nearly all. The cells are of natural size and shape; their arrangement in the lobule undisturbed. There is some increase in the connective tissue; the cells are slightly separated from each other by a membrane containing lymphoid elements. The whole section is covered with granules of various sizes, with double contour, refracting the light, and not touched by acetic acid—probably small fat drops, set free by the mechanical breaking up of liver cells. Iodine stains the cells of deep reddish colour. The connective tissue and free oil drops outside left untouched.

EXPERIMENT II.

January 24, 1873.—Black she cat weighing 6 lb. 6¾ oz. (2,757 grm.). Bile duct tied double, but not cut. Animal pregnant. The cat died on January 26. Examined on January 28. Weather frosty. Liver unaltered in appearance. This organ and kidney put away to harden in Müller's fluid. Hardening finished in chromic acid.

Microscopical Examination.—Liver cells all rounded, but of natural size; contents vary from granules up to large fat drops; contents not highly coloured. In most cells nucleus obscure; where visible not much altered. The arrangement of the cells in lobule much disturbed. There is also already an increase in the connective tissue, not merely around the great vessels, but also within the lobules. The cells are seen separated from one another by a colourless membrane, which contains new lymphoid elements, and is also dotted with

granules of various size. Coarse fibres can also be seen passing into the lobules, and running between the cells; those fibres seem to spring from the connective tissue in the portal canals. In some parts of the liver the cells have preserved their raylike arrangement in the lobule. Iodine stains many of the cells a deep red around nucleus, which the iodine brings out.

Kidneys: tubules filled with a granular detritus; not a single epithelium cell to be seen.

Experiment III.

February 3, 1873.—Large tabby cat, weighing immediately after operation 7 lb. 3½ oz. (3,265 grm.). Animal very fat; bile duct tied, but not cut.

February 6.—Cat seems to be dying; it is unable to stand, but lies on side, mewing.

February 7.—Found dead at 11 a.m. in same place where left yesterday. No jaundice of conjunctiva or gums. On opening wound some serum flows out of belly, distinctly jaundiced. No peritonitis except around wound. Urine in the bladder gives a beautiful green colour with nitric acid. Liver natural size; looks nutmeggy; and the darker parts appear to be in the circumference of the acini. Gall bladder distended. Perfect occlusion of the bile ducts. Heart looks natural; under microscope fibres of right and left ventricle have nearly all natural appearance; only a few fibres seen with granular degeneration. Kidney to naked eye shows fatty degeneration. Liver examined same day; seen with a low power, the lobules are bordered with a deep dark margin; looking at the individual cells with a high power, they are full of various sized drops of oil. Liver and kidney put into chromic acid to harden.

Microscopical Examination.—Cells not altered in shape or size. Contents are chiefly oil drops; some of these completely fill the cell. Where the oil drops allow it, nucleus is visible, sometimes shrunken, sometimes well preserved. Cells still arranged in rays around hepatic vein. There is a considerable increase of connective tissue; great bands and branches of coarse fibres sent out from the capsule of Glisson pass into the lobules; and the cells can be washed out, so as to leave alveoli. Iodine stains the cells unequally red.

Kidneys: tubules full of granular material; here and there an epithelium cell can be seen, highly granular, but as a rule they cannot be made out.

Experiment IV.

January 3, 1873.—A young cat; the common bile duct tied twice and divided. Cat found dead on morning of January 7th. Cause of death prolapse of bowels. No jaundice of gums noticed. Obstruction to bile ducts complete. Appearance under microscope of heart and muscular fibres of pectorals quite natural; no granular degeneration. Liver: examined with microscope same day; cells perfectly preserved, but in many instances full of fat drops. Hardened in 1 per cent. solution of chromic acid. After hardening, liver cells showed regular polygonal shape; vary slightly in size; contents granular or even show fat drops; nucleus well shaped, nucleoli sometimes observed; natural arrangement of cells in acini well preserved. No injection of bile capillaries noticed, or casts of bile pigment. A distinct increase of the connective tissue of the liver; most apparent around the vessels where abundance of new lymphatic elements may be noticed; increase of connective tissue within lobules also very apparent, and in some cases plainly an increase between the cells. Iodine stains the cells unequally a deep red.

Experiment V.

January 7.—White cat with yellow brown markings, very old, only one canine tooth, weighing 6¼ lb. Bile duct tied double and cut.

January 9.—Cat very feeble; no suppuration of wound. Cat found dead at 10.30 a.m. on January 11. Examined immediately. Bile duct completely obstructed; contents of small and large intestine quite colourless; gall bladder, and ducts enormously dilated. About an ounce of jaundiced serum in peritoneum: omentum glued to wall of belly, liver, and parts around bile duct; otherwise no general peritonitis. Liver large and natural colour. Kidneys under microscope show marked fatty degeneration of the tubular epithelium; here and there the epithelium is preserved, but most of the tubules are filled with granules, which refract the light strongly, and many of these granules are larger than red corpuscles. With low power, greater part of kidney looks quite black. Heart fibres well striated; no granular degeneration. Liver: low power, shows at circumference of lobules a narrow border of cells which look black. Hardened in weak chromic acid.

Examination of Liver.—Cells all smaller than natural, some scarcely bigger than a white corpuscle; prevailing shape oval

or roundish, none polygonal seen. Contents coarsely granular; nucleus in most invisible; when seen, shrivelled. There is some increase of the connective tissue, the fibres of which are very coarse; many lymphatic elements seen between the cells in the new tissue; but the connective tissue is, as well, highly granular. The granules vary in size from dots just visible to a little smaller than a red corpuscle. The connective tissue around the vessels increased and full of new lymphoid elements. The cells stain unequally with iodine; some are coloured uniformly yellow white, others show an unequal reddish brown staining.

EXPERIMENT VI.

February 3.—A cat not fully grown, very wild, scarcely any fat on body, weighing immediately after the operation 3 lb. 5 oz. (1,501 grm.). Bile ducts tied double, but not cut. The animal nearly died under the chloroform, but recovered with artificial respiration.

Cat last seen alive on February 7; no jaundice of conjunctiva. Found dead on morning of February 12, and already much decomposed. Cause of death, prolapse of bowels. Heart fibres, perfect striation; no granular degeneration. Liver and kidney hardened in chromic acid.

Microscopical Examination.—Liver cells well preserved in some groups; in others, shape prolonged, oblong, spindle-shaped or irregular, but in nearly all these cases the long diameter is three times the length of the short. In other groups the cells are small and round, so that with the increased connective tissue the section much resembles that of a lymphatic gland; in both these kinds of cells the contents are tolerably colourless, but nucleus always indistinct. Other groups of cells have highly granular and coloured contents. The increase in the connective tissue is remarkable; there are wide spaces between the cells filled with hyaline or slightly fibrous membrane containing new lymphoid bodies. The liver cells in some places have dropped out, leaving a fibrous network. The connective tissue around vessels is highly nucleated, like cirrhotic tissue.

Kidney: epithelium of tubules quite natural; no increase of the connective tissue.

EXPERIMENT VII.

January 6.—A whitish cat with grey spots, weighing 5¾ lb. (2,598 grm.). Bile duct tied double, and cut.

January 8.—Cat feeble, belly wound suppurating.

January 10.—Less suppuration, cat livelier.

January 13.—Cat found dead in morning, with bowels prolapsed. Examined immediately. Weight 4¼ lb. (1,917 grm.). Gall bladder much distended; contents of intestines white. Heart fibres natural. Liver large. This organ and kidney hardened in spirits of wine.

Microscopical Examination of Liver.—Great variations in the size and shape of the cells; some natural, but others smaller, and have lost natural shape. The small ones have singularly colourless contents. The nucleus is preserved in all, but not large. The natural arrangement of the cells in the acinus is preserved, but broader spaces than natural between the rays of cells. The cells, as a rule, are placed naturally together. The fibrous tissue around the great vessels shows much increase and new lymphoid elements. In some specimens the gall ducts outside the lobules are seen to be dilated, and full of their own secretion.

Kidneys: the epithelial cells in the lobules can be made out, but they contain numerous granules; no large oil drops apparent.

EXPERIMENT VIII.

February 12.—A tabby cat, weighing 6 lb. 11½ oz. (3,060 grm.). The bile duct tied close to the duodenum and above, so that about 7 or 8 millimeters were cut out. The cat was found dying at 10 30 a.m. on February 19. Examined immediately. Weight 5 lb. 13½ oz. (2,620 grm.). No jaundice of gums or mouth. Slight adhesion of omentum to liver and intestines; no fluid in belly; very slight peritonitis. Liver natural size and colour. Kidneys show naked-eye appearance of fatty degeneration.

Microscopical Examination nine hours after death.—Liver cells small, nucleus to be seen in most; in others fatty infiltration and nucleus not visible; some cells singularly colourless, round, and small. Heart fibres show good striation; in some few, granular degeneration. Liver and kidneys hardened in chromic acid.

Liver: the amount of fat in this liver is quite remarkable. It is not, as usual, disposed around the margin of the lobules, but the cells containing the fat are equally distributed throughout the lobule. The cells which contain large drops of fat are more numerous than the others; they are of natural size and shape, or even a little larger. Those which only contain granules are smaller than natural, and are mostly roundish in shape; some long oval or spindle. The arrangement of the cells in rays quite undisturbed. Increase of con-

nective tissue not so marked as in the foregoing cases. Iodine stains the cells uniformly yellow.

Kidney: tubules full of a granular detritus.

Experiment IX.

February 12.—A very large tabby cat, grey and black, weighing 7 lb. (3,175 grm.). Very little fat on body. The bile ducts tied double and about 4 or 5 millimeters of the duct between the ligatures cut out. In opening the belly the liver was pricked; there was free bleeding, which presently stopped of itself. The animal is said to have died on February 21. It was examined on February 22; weight 5 lb. 2½ oz. 2,325 grm.; already much decomposed. Some prolapse of the omentum. The gums and mouth slightly jaundiced. Fluid in belly jaundiced. Gall bladder very slightly distended; liver of natural colour and size. Heart: muscular fibre quite natural, well striated. Kidney: epithelium perfectly preserved, quite natural.

Liver hardened in chromic acid; cells, none polygonal, but round or oval; they are all much smaller than natural; their contents very granular. In some parts of the liver the nucleus is visible in most of the cells, sometimes perfectly preserved; and rarely there are two nuclei in each cell. In other parts of the liver the nucleus is either invisible or a mere point. All arrangement of the cells in acinus lost. Connective tissue vastly increased; it forms a broad network between the cells full of lymphoid corpuscles; that around the vessels is also very greatly increased, more so than in any of the experiments hitherto described, and contains a great abundance of the lymphoid corpuscles.

Experiment X.

June 10.—Black and white cat. Common duct tied double, and about 5 millimeters of the duct cut away. Cat found dead on morning of June 23. No jaundice of lips and mouth. Examined at 3 p.m. Omentum firmly glued to belly wound; this firmly united. Belly contains some quantity of a jaundiced fluid, but no peritonitis beyond some adhesions in neighbourhood of duodenum and liver. Liver large; natural colour. Contents of intestine quite colourless. Bile ducts much dilated; about size of a No. 8 catheter outside of liver; they are not tortuous. Part of liver was chopped up and mixed with water; it was allowed to stand all night, and next morning supernatant fluid poured off, boiled, acidulated

with a drop of acetic acid, and filtered. Trommer's test being applied to filtered fluid, no trace of sugar could be detected.

Microscopical Examination of liver hardened in chromic acid.—The cells vary much in size; a large number are natural in size and shape; others are much smaller, by one-half or one-third; many are still polygonal in shape, others are rounded. Contents highly granular, but no large fat drops to be seen. In most cells the nucleus is large and well preserved, although somewhat obscured by contents of cells. In some cells nucleus appears shrivelled. The cells still preserve their natural arrangement in rays around the hepatic vein. The connective tissue is much increased. There are large spaces between groups of cells, filled with a new connective tissue which contains numerous lymphoid bodies. It is also dotted with granules. The connective tissue of the vessels is also greatly increased, and full of the lymphoid bodies. The liver cells stain a reddish brown with iodine.

Experiment XI.

January 9.—Black tom cat, weighing 6 lb. 1¼ oz. (2,725 grm.). Bile duct tied double and cut.

January 22.—The conjunctivæ are now noticed for the first time to be slightly yellow. The cat is growing thinner daily, but has eaten very little since the operation. The wound looks well, and there is no suppuration.

January 25.—This day all the remaining stitches taken out of wound; it is firmly united. Weight of cat, 3 lb. 7½ oz. (1,040 grm.). The cat died at 10 o'clock at night.

Examined on January 27.—Weather frosty. Operation wound strongly and well united. The omentum is adherent to belly wall along line of operation; otherwise no trace of peritonitis. The gall bladder immensely distended; it is over 75 millimeters in length; it is full of green bile. The ducts outside the liver much enlarged; so also those inside, but they are filled with a thick, almost colourless mucus. Liver itself, if anything, smaller than natural; surface quite smooth; tissue mottled. The section quite areolar, full of dilated vessels. All the tissues stained of a deep yellow colour. No fluid in belly. Small intestines empty. Large intestine contains some black semi-fluid stuff looking like altered blood. Kidneys look natural to naked eye. Blood not clotted. Heart small; looks natural. Urine in bladder about 15 c.c., giving an exquisite green reaction with nitric acid.

January 28.—The heart fibres everywhere show a marked

granular degeneration; in some few the striæ are still visible. Liver cells diminished to a quarter or less of their natural size. Epithelium of kidneys natural. Liver hardened in chromic acid.

Microscopical Examination.—The sections made by a razor are quite areolar. Here and there a bile duct is seen cut across transversely. The section shows the vessel still lined by columnar epithelium. The increase in the fibrous coat is very great: the tissue is highly nucleated, as in cirrhosis. The lymphoid corpuscles are set so thick together that it is scarcely possible to see anything else.

Leaving the vessels, the first thing that strikes the eye is the immense increase in the connective tissue. Large wavy bands and fibres cross the field, and in some instances make up the greater part of what is seen. The liver cells themselves much wasted; they vary in size from a little larger than a leucocyte to somewhat bigger than two; their prevailing shape is rounded or ovoid. Their contents are slightly granular; there are no fat drops to be seen. In most of the cells a somewhat shrunken nucleus may be made out. The cells are larger near the hepatic vein than at the margin of the lobule; the cells seem to be still arranged in a certain order around the hepatic vein, but a large outgrowth of highly nucleated connective tissue passes down through the lobule from the margin. Iodine stains the cells a very pale yellow.

Experiment XII.

January 24.—Black cat, weighing immediately after the operation 7 lb. 5½ oz. (3,348 grm.). Bile duct tied double and cut.

February 3.—A brown yellow tinge now visible on conjunctiva. Most of the stitches taken out of the wound. The cat eats well.

February 6.—Jaundice increasing; wound nearly firmly united; weight, 6 lb. 10 oz.; appetite keeps good.

February 7.—Jaundice still increasing; cat is now very feeble, and when tumbled over has great difficulty in regaining its feet.

February 10.—Jaundice extremely intense.

February 12.—Cat dying; weighs 4 lb. 7 oz. (1,995 grm.); was left alive at 5 o'clock in the evening.

February 13.—Found dead this morning at 10; examined at once. Upper part of wound well and firmly united; but the lower, where a few stitches were not taken out, is sup-

purating a little. Whole of body plainly jaundiced. Urine in bladder gives a beautiful green reaction with nitric acid. Gall bladder but little distended; it is filled with a viscid dark green bile, which gives Pettenkofer's test admirably. There is complete obstruction of the ducts. Liver somewhat shrunken; surface looks rough, like the beginning of cirrhosis; on section the lobes are found to be full of whitish nodules. The large bile ducts inside liver are dilated and filled with green bile. Liver and kidneys hardened in chromic acid.

Microscopical Examination.—A section of the liver shows at first sight little else but connective tissue, in the meshes of which lie oval-shaped masses of pigment and fat drops. By careful examination, and the use of dyes and reagents, it can be determined as regards the pigment that it is contained chiefly in cells. These have a certain determinate form, namely, an oval inclining to spindle shaped; in some few, a shrunken nucleus can just be seen. As to the fat drops, which are tolerably numerous, I have been unable to find any cyst wall surrounding them. They seem to lie quite free in the meshes of the connective tissue. They are all, however, much of the same size and are round, twice the diameter of a leucocyte. The cells containing the pigment are much smaller.

The connective tissue, as in the other cases, contains abundance of lymphoid corpuscles; most markedly so around the vessels.

Kidney: with low power the outline of the tubules is quite black; with higher powers, the epithelium is seen filled with dark granules, although in most the nucleus can be seen.

Experiment XIII.

January 11, 1873.—A black and white cat; the bile ducts tied double and cut. This cat never became jaundiced. It was killed on February 6 by cutting off the head. On dissection, the common duct was found to give off a branch above the ligature; this branch communicated with the duodenum. There was no peritonitis or jaundice. The wound had perfectly healed.

Experiment XIV.

January 7.—Brown yellow cat: weight, 4 lb. 15¾ oz.; bile duct tied double but not cut.

January 9.—No jaundice, but cat very feeble.

January 18.—The conjunctivæ are now slightly jaundiced.

January 22. — Yellowness of conjunctivæ still more marked; edges of wound in belly firmly grown together; all the stitches taken out to-day.

February 3.—Yellowness growing less; belly wound quite healed.

February 5.—No yellowness can any longer be seen in the conjunctivæ; the belly wound can scarcely be made out, it is so firmly cicatrised; weight, 4 lb. 12 oz.; fæces dark coloured, and urine gives no green reaction with nitric acid. It was determined to kill the animal; the head was therefore cut off; examination immediately. Omentum firmly adherent to scar of wound; no trace of peritonitis beyond these adhesions and some in the neighbourhood of the bile duct. Gall bladder about the size of a filbert nut; the ducts outside the liver have a tortuous course; they are enlarged, but not so much dilated. On careful dissection it was found that the ligatures had eaten through the duct and were still in their place, but the bile had formed a passage outside the knot into the intestine. Liver at first uniform in colour, but in two and a half hours after death it had become distinctly nutmeggy. Examined with low power, the liver section looks very dark; it is clear only in centre of acinus. With high power the cells are seen to be well preserved; most of them are seen to be full of oil drops, some large, some small; nucleus of cell generally obscured, but when seen, large. Liver hardened in chromic acid. Beyond the fatty infiltration of the cells, and perhaps a slight increase in the connective tissue, the sections of the liver appear quite natural. The liver cells are of a natural size and shape, their nucleus well preserved; the cells arranged in rays around the hepatic vein; they, however, stain very lightly with iodine.

Experiment XV.

June 10.—A tortoiseshell cat, not fully grown. The left branch of the hepatic duct tied once only. The cat never became jaundiced; it ate immensely, and yet it lost flesh daily. It died in the night between June 27 and 28. Examined on June 28 at 11 morning. There was no jaundice of the gums or mouth. Wound of belly hidden by a mass of hair and dried pus; this taken away, the wound underneath found to be perfectly healed. Omentum adherent along line of incision; no signs of peritonitis, except about the porta of the liver. The hepatic and common ducts free from all obstruction, and lining membrane coloured pale yellow. Con-

tents of duodenum pale yellow. Gall bladder distended. The ligature, as stated, found around left branch of hepatic duct. This is obliterated from hepatic duct up to the point where the ligature is still around duct. The thread is close to the liver tissue, and the duct beyond cannot be opened without cutting liver substance. The duct above the ligature is much dilated, quite cystic. It contains a colourless fluid; the rest of the ducts within this lobe of the liver are much dilated. No cylindrical epithelium can be got off them. Liver itself of natural shape and size.

Heart, to naked eye, natural. Fibres, from the left ventricle, show under microscope most marked granular degeneration; in most of them, striæ not to be seen; the granules within the fibres for the most part disappear when acted on by acetic acid.

Kidney: all the tubules filled with different sized globules, some just visible, others larger than the nuclei of the epithelium; these are not dissolved by acetic acid. The epithelium is well-preserved, good nucleus. It is plain that the oil globules are contained within the cells.

Liver: parts of the right lobe finely chopped, and placed in a beaker with enough water to cover them; next morning (June 29) supernatant fluid poured off, boiled, acidulated with a drop of strong acetic acid, and filtered. Trommer's test applied to the filtrate gave no reaction; it remained clear.

The same treatment applied at the same time to the left lobe with the same result.

Microscopical Examination of liver hardened in chromic acid. —Part of left lobe. The cells are very greatly diminished in size; some only a little bigger than a leucocyte; few are polygonal in shape; the great majority are rounded or oval. They contain a nucleus, the diameter of which is about equal to that of the cell itself; the other contents are not very granular, and the natural distribution of the cells in rays is preserved. There is a very great increase of the connective tissue of the vessels, and also within the lobules; the cells are separated from each other by broadish bands of new connective tissue, full of lymphoid bodies, and free from granules. The liver cells stain a pale yellow with iodine.

Part of right lobe. The liver cells have nearly the same characters as in the left lobe, except that they are more quadrangular, and that the nucleus cannot be made out even with the help of re-agents. There is no increase, or but exceedingly small increase, in the connective tissue. That

around the vessels is quite natural. The cells stain a uniform pale brown with iodine, and have kept their natural arrangement of rays in the acinus.

Experiment XVI.

June 27.—Black and white cat, well nourished, full grown. Bile duct tied double and piece cut out.

July 3.—As the cat was now very weak, and seemed about to die, it was determined to make the diabetic puncture. The cat was therefore laid prone, a cut made through the skin over the occipital protuberance, and the chisel applied immediately underneath this. After dividing the occipital bone, the chisel was passed in a direction downwards and forwards, so as to cut the line made by joining the two auditory meatus. The chisel was pushed on until it met with the basilar bone, and was then withdrawn. Operation was over at 12·30. Before the operation, the cat had languidly taken a little milk; urine passed during the operation, though highly jaundiced, gave no reaction with Trommer's test.

At 2.15 urine pressed out of bladder likewise gave no reaction with Trommer's test.

July 4.—Cat still alive; urine gave no reaction with Trommer's or Moore's test.

July 7.—The cat died in the night between July 5 and 6. Examined to-day at two o'clock. Much more peritonitis than in any other of the experiments. The upper and under surfaces of the liver covered with a layer of exudation; the fluid in belly turbid. Complete obstruction of the gall ducts. No microscopical examination of the liver.

Analysis of the foregoing Cases.—As regards time of death: sixteen cats had their bile ducts tied; three of these died from prolapse of the bowels, two on the fifth and one on the seventh day after the operation. Another cat had the diabetic puncture done on the sixth day after the operation, and died probably on the ninth day. So in twelve only was the natural progress of events uninterfered with. Out of these twelve, two died on the third day; two on the fourth; and one on the eighth, tenth, fourteenth, sixteenth, eighteenth (but in this case only the left hepatic duct was tied), and twentieth days respectively. Two cats were killed on the twenty-seventh and twenty-ninth days; the bile had found again a natural passage to the intestines. This curious result was noticed by Brodie,

one of the earliest to make the experiment of ligature of the bile ducts.*

In all these cases it may be remarked that the jaundice of the conjunctivæ was very slow to declare itself. In none was it noticed until the tenth day after the operation; in one it did not show itself until the fourteenth. The cats were daily examined for this appearance. On the other hand, Frerichs asserts that a yellowish colour of the conjunctivæ could be noticed in sixty or seventy hours after the operation.† Tiedemann and Gmelin,‡ Leyden,§ and Golowin,‖ also found their dogs jaundiced on the second or third day. In Heinrich Mayer's experiments, the jaundice seems to have come on later, about the same time as in my own;¶ and it may further be noticed that he used cats, not dogs; upon which circumstance, perhaps, the difference between observers depends. In an old experiment by Saunders the hepatic ducts of a dog were tied. Two hours after, the dog was killed. The absorbents were found distended with a fluid of a bilious colour, and white paper dipped into the serum of blood taken from the hepatic vein gave a deeper tinge than from the jugular.** I have repeated this experiment in the dog without success.

On July 5 the common bile duct was tied immediately below union of cystic and hepatic, at 11.45 a.m. Dog killed at 1.45 p.m. by a blow on the head. Examined immediately. No distended lymphatics seen about the liver; blood from hepatic vein accidentally thrown away; blood from cavæ set aside to clot. Serum examined next day; boiled with four times its bulk of saturated solution of sulphate of soda; acetic acid added when boiling, and fluid filtered. The filtrate tested repeatedly with nitric acid, but not the least change of colour noticed.

Upon the time at which bile pigment can be detected in the urine I have not made any observations. It is so common to find the urine of cats and dogs, apparently in perfect health, giving a most unmistakably Gmelin's reaction with nitric

* Brodie, 'Quarterly Journal of Science, &c.' London, 1823, vol. xiv. p. 344.

† Frerichs, op. cit. Bd. i. p. 99.

‡ Tiedemann and Gmelin, 'Recherches sur la Digestion,' Jourdan's translation into French, Paris, 1826, partie ii. p. 47.

§ Leyden, op. cit. p. 84.

‖ Golowin, 'Arch. f. path. Anat.' 1871, Bd. liii. p. 421.

¶ Heinrich Mayer, loc. cit.

** Saunders, 'A Treatise on the Structure, Economy and Diseases of the Liver;' London, 1803, p. 111. Frerichs (op. cit. Bd. i. p. 99) says he was unable to discover any bile pigments in the blood, serum, or lymphatics, twenty-four hours after the ducts had been tied.

acid, that I did not consider it worth while to undertake any observations with this test on the urine of these animals.

Although the appetite in these animals remained good in most cases, yet they wasted. In one case the weight fell from over 7¼ lb. to under 4½ lb. in nineteen days. The cats appeared to become weaker daily, without any marked symptoms of disease. No nervous symptoms, as convulsions, were seen; and coma was never noticed until within a few hours of death.

The cause of death in these creatures is obscure. Blondlot and many other observers attribute it to peritonitis. Blondlot gives a distinct cause. He says that the ligature eats through the bile duct; the bile is thus poured into the peritoneum.* In my own cases, I did not notice this in one instance, although in all cases the bile ducts were carefully dissected out. The ligature was around the duct in every case. Peritonitis can scarcely be set down as a valid cause. In all, the marks of peritonitis were so slight, and so limited to the part between the under surface of the liver and the duodenum, that it was impossible to attribute the fatal result to this local disturbance. In none of my cases, too, was the suppuration from the wound at all considerable. It had usually ceased at the end of the first week.

Leyden seems to think that it is the addition of the jaundice to the peritonitis which kills the animals.† Experiment XV. would seem to discredit this explanation. Here only one branch of the hepatic duct was tied; yet the cat died on the eighteenth day, although no jaundice had been set up at the time of death. Again, dogs, in whom biliary fistulæ have been set up and again closed, live for months, notwithstanding an intense jaundice.‡ I should be far more inclined to attribute the cause of death to the changes which take place in the liver. The liver in these cases, as tested by iodine, contained little or no glycogen; and when the watery extract of the liver was examined in three cases for sugar, none could be found. Further, on the sixth day after the ligature of the bile duct, no sugar appeared in the urine after the diabetic puncture was done. Of all the functions of the liver known to us, the most important is the preparation of glycogen, and this seems to pass into complete abeyance soon after ligature

* Blondlot, 'Traité analyt. de la Digestion,' Paris, 1843, p. 174.

† Leyden, op. cit. p. 84.

‡ Kölliker und Müller, 'Verhandl. der phys.-med.' Gesellschaft in Würzburg,' 1856, Bd. vi. p. 468. Golowin, op. cit.

of the bile ducts. Glycogen is one of the most important elements of nutrition; and it is not surprising that the animals should have wasted so rapidly when the system was deprived of it. And it is to this defect in nutrition, even while the animal was taking nourishment freely, that I am inclined to attribute the fatal end.

One of the most important of the morbid changes to be detected with the microscope which follow ligature of the bile ducts is the increase of the connective tissue of the liver. The change can be made out within a few hours after the ducts have been tied; and it increases, destroying the other tissues in the liver before it, as long as the animal continues to live. In the first experiments the amount of increase was not very striking. But in those cats which lived over the fourth day it was very great. The cells could be brushed out of the tissue, leaving alveoli of various sizes. The connective tissue thus left was, in general, hyaline or slightly fibrous. Occasionally it was granular; but in most cases this appearance could be safely attributed to the escape of the fatty contents of the cells. But a more noteworthy appearance, seen in the new connective tissue, was the presence of those bodies which I have called lymphoid corpuscles. They closely resembled leucocytes. Here, however, their origin does not concern us, nor are there sufficient grounds to enable a judgment to be formed. It is enough to notice their existence. They were present in very great numbers, not affecting any particular part of the lobule more than another, though in the greatly hypertrophied fibrous coat of the vessels they were seen in far greater abundance than anywhere else.

The source of this hypertrophy of the connective tissue may, I think, be found in the action of the ligature upon the fibrous coat of the bile ducts. An overgrowth of this is set up, which extends into the porta of the liver, and thence spreads over Glisson's capsule and the whole of the connective tissue of the liver. It is noteworthy that Solowieff, so far as can be judged from the short description yet published,* has met with precisely the same morbid appearances in the liver after ligature of the portal vein, as I have found after ligature of the bile ducts. In both cases the increase of the connective tissue was the most striking alteration.

The liver cells, although much altered, were in no case found dissolved or destroyed. The chief alterations were those which might have very well been guessed after the increase in

* Solowieff, 'Clbltt. f. d. Med. Wiss.' 1872, No. 22, p. 337.

the connective tissue had been made out. They were atrophy and fatty infiltration. The atrophy was best marked in those cases in which the animals lived longest. The cells passed through all sizes, from that slightly smaller than natural to that of a leucocyte. Their nuclei were in some cases well preserved, in others shrivelled, in others invisible; and this without any rule being apparent. The shape of the cells tended to be round or oval; their outline indistinct. I have not in any case noticed a high degree of pigmentation, which the observations of others had prepared me to find. Also I have been quite unable to discover the structures, supposed to be casts of capillary bile ducts, described by Oskar Wyss and Meyer. Nor have I seen anything with which I could possibly confound them.

As to the infiltration of the cells with oil, it is difficult to determine whether it be an accident or the result of the operation. The evidence would incline, I think, to the former. In those animals who lived into the second and third weeks, the large fat drops in the liver cells were no longer seen. They were replaced by granules, colourless and insoluble in acetic acid, probably therefore fat. This granular state of the cells may be looked upon as part of the atrophy caused by the growth of the connective tissue, just as in ordinary cirrhosis. As to the occasional impossibility of seeing the nucleus in the cells containing abundance of fat, it seems more likely that the nucleus is present, although obscured by the granules, than, as Winiwarter assumes, that the nucleus in these cases escapes from the cell.*

In some of the cases of acute yellow atrophy in which destruction of the liver cells was first noticed,† there was a permanent obstruction to the onward flow of the bile. These observations, too hastily generalised, led to the opinion first formulated by Th. von Dusch,‡ that obstruction to the bile ducts was a cause of acute yellow atrophy. Von Dusch further sought for aid to his theory in the mistaken notion, which he was the first to set forth, of the power of the bile to dissolve the liver cells. He added bile to the liver cells under the microscope, and thought that the cells were dissolved by it.

* Winiwarter, 'Med Jahrbb. hrsg. v. d. k.k. Ges. d. Aerzte zu Wien,' 1872, p. 266.

† Thomas Williams, 'Guy's Hospital Reports, 1842, p. 444. Budd, 'On diseases of the Liver,' London, 1845, p. 186.

‡ Th. von Dusch, 'Untersuchungen und Experimente als Beitrag zur Pathogenes edes Icterus und der acuten gelben Atrophie der Leber,' Leipzig, 1854, p. 36.

It is easy, however, to repeat this experiment, and not to arrive at von Dusch's results. For example: on February 7 last, a healthy cat was killed, and the bile taken from the gall bladder added to some of the liver cells under the microscope. The cells lost their shape, became rhomboidal, pale, and nucleus difficult to see. The outline of the cell became altogether indistinct. So far the experiment seemed to favour the notion that the cells were dissolved. But, on the other hand, the contents of the cells—fat drops, for example—never became free. If the cells were made to move, they floated away, their contents preserving exactly the same relation to each other. Another and more convincing proof is that the outline of the cell could be again brought into view by colouring matters. Observations with precisely the same result were made afterwards on the livers of two other cats, a rabbit, and a man. Similar changes in the cells were noticed after the action of a 12 per cent. solution of the bile acids. No one who has seen the action of the bile acids upon the red corpuscles would be able for a moment to compare the sudden and complete extinction of these last, when they touch the bile acid solution, to the lengthened action of the same solution upon the liver cells.*

It would have been unnecessary to allude to this point had not a fresh attempt to revive this view of the ætiology of acute yellow atrophy been made within the last few years.† In these cases of ligature of the bile duct, it will be seen that in no case were the liver cells found dissolved—a point considered by most pathologists essential to the diagnosis of acute yellow atrophy. In all cases the liver cells, although shrunken and atrophied, or infiltrated with fat, were perfectly preserved. This theory of acute yellow atrophy receives, therefore, no support from the foregoing experiments.

There is, however, one point as to the connective tissue in acute yellow atrophy and in ligature of the bile ducts which deserves attention. Quite recently, Winiwarter, relying upon observations of his own at Vienna, has come to the conclusion that it is the connective tissue which is first attacked in acute yellow atrophy.‡ His drawings and description of the early

* See also Kuhne's experiments on this point: 'Arch. f. path. Anat.' 1858, Bd. xiv. p. 324; and Robin, 'Mém. lus à la Soc. de Biologie pendant l'année 1857,' p. 14.

† Davidson, 'Monatschrift f. Geburtskunde,' 1867, Bd. xxx. p. 463.

‡ Winiwarter, 'Med. Jahrbb. hrsg. von d. k.k. Gesellschaft der Aerzte zu Wien,' 1872. Heft iii. p. 256; Taf. viii. fig. 2. See also Moxon, 'Trans. of the Patholog. Soc. of London,' 1872, vol. xxiii. p. 138, and Plate iii. fig. 3.

stage of acute yellow atrophy very closely correspond with what I have found in these experiments about the end of the first week. But the two conditions are distinguished by the course which they afterwards take: in acute atrophy, the liver cells dissolve into a mass of fatty detritus, carrying the connective tissue with them; in the cases of ligature, the connective tissue passes into an enormous growth, in the midst of which the cells dwindle, but are not dissolved. A similar appearance of the connective tissue may also be found in the liver of leukæmia, and other diseases.

In disease, the state which most closely imitates ligature of the bile ducts is congenital obstruction of the bile ducts outside the liver. Of these cases, of which there are but few on record, there were found, in one of the more carefully examined cases, appearances which the writer* calls hepatitis interstitialis: in other words, an overgrowth of the capsule of Glisson. Here the same chain of events seems to take place; the change of the bile ducts into a fibrous cord influences all the connective tissue in the portal canals, and an overgrowth takes place. The nature of these changes, whether of a so-called inflammatory origin or otherwise, it is unnecessary, and would be unprofitable, here to discuss.

ARTICLE XIII.—*Four Cases of Double Optic Neuritis. With Remarks by* HENRY POWER.

CASE I.—*Paralysis of the Fifth and other Cerebral Nerves. Slowly progressing destruction of both Eyes, commencing with Ulceration of the Cornea. Death. Autopsy, showing numerous Tumours, apparently of a Syphilitic nature, scattered through the substance of the Brain.*

THE subject of the following notes (for arranging which I am much indebted to Mr. Stowers) was an inmate of the Hospital for nearly six months, and his case, it will be seen, presents many points of interest.

Admitted August 19, 1872.

J. S. is a thin, poorly-nourished, anæmic artisan. Has enjoyed good health up to the last two months, when, while engaged in cutting the edges of books, the heavy knob

* M. Roth, 'Arch, f. path. Anat.' 1868, Bd. xliii. p. 296. See also a case published by Dr. Henry Green ('Trans. of the Path. Soc. of London, 1872, vol. xxiii. p. 133) of 'Interstitial Hepatitis, and Obstruction of Common Bile Duct.'

attached to the handle of the machine struck him on the forehead just above the left eyebrow. He was not stunned, but continued with his work as usual. As the result of the accident there was but little swelling, and the discolouration that ensued was very slight. For three weeks after the blow he continued with his work, though he says that a week after it happened he began to feel a slight numbness in the left cheek. He noticed about the same time also that he could not hear so well with the left ear. Three weeks from this date the left eye became bloodshot, and congested, lachrymation followed, and mucus was secreted. He never felt pain in the eye from the time that it was first congested. He has bare perception of light with it at the present time. His tongue is protruded towards the left, and he states that it feels numb on the same side, so as to cause thickness of speech. He frequently bites his left cheek and tongue. Fluids, when admitted into the mouth, escape at the left corner. Food lodges between the left cheek and the corresponding gums. The left cheek is colder than the right, though at times he says it is more flushed.

The order in which the symptoms supervened, so far as the patient can tell, was—

1. Numbness in face, with loss of sense of smell in left nostril.
2. Deafness.
3. Numbness in left half of tongue.
4. Affection of the eye.

His face is much drawn towards the right, and he is now unable to whistle. The left orbicularis does not act at all. Ptosis is present. There is partial paralysis of the third, fourth, and sixth nerves. Slight downward motion is left in the left eye, and the internal and external recti muscles appear to act feebly. The conjunctiva is congested, and slightly chemosed; the cornea is flattened and nebulous, and a small sloughing ulcer is seen at its lower edge. The pupil is widely dilated, the iris is discoloured, and the whole globe seems shrunken and retracted. He can count fingers quite well when they are held up before the left eye. The cornea has lost its sensibility, and can be touched without causing any discomfort. The numbness of the face extends over the whole of the left side equally, and on the forehead a little beyond the middle line.

The numbness of the tongue appears to be confined to the left side of the tip, and half an inch towards the base. The sensation of the inner sides of the lips is also changed. The mucous membrane of the hard palate on the left side is more

or less insensible, but that of the soft palate is little altered. The mucous membrane of the pharynx is fairly sensitive. The skin and mucous membrane of the left nostril is numb, and mucus does not appear to be secreted in it. The sides of it lie loosely together, and when the end of a quill pen was passed up into it, he does not complain, either when in contact with the lower turbinated bone, or when directed back towards the pharynx. The pen returned quite free from mucus, or moisture of any kind. The ear, though deaf, is quite sensitive to pain when pressed, and there is no cerumen secreted in the meatus. His memory is apparently unimpaired, and the thickness of his speech is apparently due rather to the mechanical difficulty than to disorder of the cerebral functions. Constipation has been his trouble for the last five or six weeks, for at times he has been eight days without an evacuation. For the same length of time his appetite has failed him. When eighteen years of age he had a gonorrhœa, and a bubo in each groin, which remained open for some time, and did not heal for five or six weeks. About four years after that he had a slight scaly eruption upon the right arm, which with the aid of medicine soon however got well, and has left no mark whatever on the skin. He was treated by Mr. Kingdon, at the City Dispensary.

Again, one year since he contracted gonorrhœa, but this time unassociated with either sores or bubo. He was treated as an out-patient at King's College, for three weeks. He had no difficulty in micturition. He has at the present time good use of his hands and legs. The bowels act only with purgative medicines.

Urine: quantity normal; no sediment; high coloured.

The symptoms were thought to point very clearly to some gradually advancing disease at the base of the brain, affecting the second, third, fourth, fifth and sixth nerves on the left side. The precise nature of the disease, however, was obscure, though the previous history rendered it probable that it was syphilitic. Acting on this supposition, and looking at his emaciated aspect, he was placed on half-diet, with four ounces of wine. A good purge was administered. Belladonna fomentation was applied to the temple and eye, and a sixteenth of a grain of perchloride of mercury given in decoction of cinchona three times a day. A pill containing belladonna, hyoscyamus, and extract of colocynth, was also directed to be taken every night. And he was directed to wear a pad of cotton wool and a bandage on the left eye.

The pill and draught acted well. On the following day the cornea was less hazy, and the slough had separated from the lower part of the cornea. The right pupil was slightly dilated. He complained of pain and itching in left eye. On September 3 he had some diarrhœa, and the pills were therefore discontinued. He was made to-day to inhale nitrite of amyl, to see whether the left side of the face would flush more than the right, but no difference was observed. The ophthalmoscopic examination showed that the right optic disc was reddened, its outline rather faintly marked at its apparent outer and lower side, but it could not be said that optic neuritis was present.

The ptosis was not quite complete. In certain positions of his head, as in bending forward, the lid rose to some extent; ordinarily, however, the upper two-thirds of the cornea, and all the pupil, were covered by the upper lid. In order to ascertain whether the nerves and muscles retained any irritability, a continuous current from a Stöhrer's battery was applied, and it was found that the muscles immediately responded, and presented well marked twitchings. He observed also, each time the current was made and broken, a flash of light in the eyes. Some experiments were made to ascertain how far the sense of taste was retained, and strong solutions of common salt of sugar and of acetic acid were painted successively on the two sides of the tongue. It was found that whilst these could all be readily perceived on the right, they produced no impression on the left side. Examination of the uvula showed that it was central, being drawn neither to the right nor to the left; but the sensation of its left side was impaired. The arches of the palate were equal in size and shape. On August 16 the corneal ulcer, which had undergone steady improvement after the application of the pad and bandage, was found to be completely healed, the surface being smooth but opaque. The eye, however, appeared to be diminished in size generally, as well as to be more sunk in the orbit than the other. These effects were apparently due to failure of nutrition of the globe, and atrophy of the fat of the orbit, from the disturbance of the functions of the fifth. The vessels of the conjunctiva and the subconjunctival vessels were decidedly congested.

To what, then, are we to attribute the atrophy and even ulceration of the cornea? With dilated vessels we should expect a freer and more liberal nutrition, for as a rule the current of blood is faster and more vigorous when the gates of the circulation in any given part are opened. Is it possible

that under certain circumstances the current may be slower and feebler with dilated vessels, rendering nutrition less active; or must we admit that direct trophic influence of the nerves, admitted by Samuel and others, and in favour of which they urge the very ulceration of the cornea which was here so prominent a symptom? It is at all events worthy of notice that closure of the lids and protection of the eye with a pad and bandage speedily, as in Snellen's experiments on animals, effected a cure. The good diet of the hospital, rest in bed, and freedom from work, produced considerable improvement in the general health and appearance of the patient. It was noticed, however, to-day, that the conjunctiva of the right eye was rather congested. There was an ill-defined circumcorneal zone, and the iris had somewhat altered in colour. He complained of some dimness of vision. On the following day, September 17, there was more redness in both eyes, and the cornea of the left eye was more hazy. The tension of both eyes was below the normal T = −1. A careful ophthalmoscopic examination was made, and though the cornea was so nebulous as to interfere considerably with the examination in the left eye, the fundus appeared to be normal: of right eye $\frac{1}{10}\frac{2}{0}$, of left $\frac{4}{10}\frac{}{0}$. The galvanism and perchloride of mercury were omitted, and he was ordered instead 5 grains of iodide and 5 grains of bromide of potassium in a little decoction of cinchona, three times a-day. During the next fortnight little change occurred excepting that the right eye became progressively worse, following exactly the same course as the left: the surface of the cornea appearing like glass that has been breathed upon, with a well-defined circumcorneal zone. The iris was discoloured and its marking obscured; without, however, any pain indicating the presence of a low form of iritis. It still acted sluggishly on exposure to light. The vision of the right eye on October 1 was $\frac{10\frac{1}{2}}{100}$. The left temporal muscle had become unmistakably atrophied. An experiment was made, with the man's consent, to see whether a little patch of blistering fluid applied to the tip of the two ears would produce its effect simultaneously, notwithstanding one was devoid of sensation and the other was naturally sensitive. The rise of the vesicle occurred at the same time on both ears. The tension of both eyes, but especially of the left, was reduced considerably, Right T. = −1, and of the Left perhaps − 1½ or 2. It was observed that he was very feeble, and that he staggered on attempting to walk across the ward.

On October 8, $R\ V = \frac{9}{200}$, $L\ V\ \frac{4}{200}$. The upper and inner part of the left cornea was the clearest, and the sharpness of vision was taken by raising the lid. The rest of the cornea was nebulous, the vessels of the conjunctiva everywhere advancing a little over the border, and some large veins running up to it from the inner and outer canthi.

A remarkable feature of the case was the variation to which the vision was liable, probably from the variations in the tension of the globes. Thus whilst on October 8 the $R\ V = \frac{9}{200}$ and the $L\ V = \frac{4}{200}$, on the 10th the $R\ V$ had improved to $\frac{8}{100}$ and the L to $\frac{5}{100}$, or more than double in both the eyes. On the 15th it had sunk again to $R\ \frac{10}{100}$ and $L\ \frac{3}{200}$. On October 17 the conjunctiva was swollen and chemosed, especially opposite the palpebral fissure; the whole surface of the cornea of the left eye was dry, and the epithelium had become detached from the lower part, leaving an ulcerated surface, to the margin of which the conjunctival vessels ran. The movements of the left eye were limited to a considerable extent, which was attributed in part to the swelling and dryness of the conjunctiva and partly to loss of power over the muscles.

Little change occurred till October 29, when it was observed there was almost complete paralysis of all the muscles of the left eye, and that he was deaf on the right side; the vision of the R was $\frac{20}{100}$ and of the $L\ \frac{3}{200}$. The sensitiveness of the skin of the face being tested, it was found to have undergone some improvement, especially in the frontal, buccal, and mental regions; but there was no sensation in the malar and left nasal region. The application of a continuous current of twenty cells of Stöhrer's battery caused very powerful contractions of the left side of the face, and, when applied so that the current passed through the temples, momentary unconsciousness. Some experiments were made at this date to determine the degree of sensitiveness of the left side of the face to impressions of touch, heat, cold, and pain. A pair of compasses, the points of which were guarded with small pieces of cork, were applied to various points. It was found that the fore part of the tongue could only distinguish the two points separately when they were at a distance of eight lines, instead of from one-half to one line; the distance on the upper lip was also eight lines, on the side of the nose twelve lines (1 inch). On the right side the sensibility was normal. The sensibility of the mental branch of the fifth on the left side was rather better than that of the infra- or supra-orbital nerves, but he had no perception of touch in the lower gum, and only at one point

in the upper gum. The sensation along the course of the left great auricular nerve was normal, and it was perfectly natural also at the back of the neck, lower occipital, and parietal regions. The sense of taste was much more acute at the back than at the fore part of the tongue, and the patient said there was a discharge of saliva into the left side of the mouth when the acetic acid was applied to the posterior part of the tongue. In regard to heat: there was no perception of heat in the left nasal, malar, palpebral, frontal, temporal, or mental regions; in fact, the loss of sensibility for impressions of heat corresponded exactly with those parts in which common sensation was abolished or impaired, and corresponded also with the distribution of the fifth nerve. Along the course of the great auricular nerve the sensation was natural. The patient stated that before admission he accidentally bathed his eye with very hot water without experiencing any pain, though the epidermis subsequently came off.

In regard to cold: he could feel the application of ice along the course of the great auricular nerve, and to a less extent along the left side of the chin, but nowhere else on the left side of the face.

In regard to pain: he felt the sensation of the prick of a needle along the course of the great auricular nerve distinctly enough, but very indistinctly over the face and the left side of the tongue. He could perceive when a whisker hair was pulled almost equally well on both sides. When the skin was tickled with a feather he could feel it over the great auricular nerve and slightly over the left side of the tongue, but not elsewhere on the left side.

All these facts were regarded as pointing to paralysis of the third, fourth, fifth, and sixth pairs of nerves, caused by pressure of a tumour, or some progressive disease, at the base of the brain, in close vicinity to the cavernous sinus. It was thought remarkable, however, that there was no well-marked optic neuritis, or 'stauungs-papilla,' though, from the haziness of the cornea, it was difficult to feel assured that the disc on the left side was normal.

No change of importance occurred up to November 13, when, having been in the Hospital for three months, and the progress of the disease being apparently arrested, he was recommended to go out for a short time and attend as an out-patient. The very next day he returned, with a recurrence of all the symptoms in both eyes. There was little doubt that he had been intoxicated, as his right eye had been singed as if

with a candle, though he declared he recollected nothing of the way in which it could have occurred. The opacity of the left cornea had extended so that hardly a trace could be seen of the clear part, which long remained above and to the inner side. The clear part, it should be mentioned, was elevated above the level of the opaque part, so that the beginning and advance of the opacity was throughout clearly seen to be due to the detachment of the corneal epithelium, and the steadily increasing haziness of the proper corneal tissue.

On the following day, November 15, the rest and quiet of the Hospital, into which he was at one admitted, produced material improvement, and after a week he was again allowed to leave, his vision being $R\ V = \frac{8}{70}$, $L\ V = \frac{1}{200}$.

On November 26 he appeared as an out-patient, with $R\ V = \frac{8}{30}$, $L\ V = \frac{1}{200}$.

On December 19 vision was in the same state.

On January 6 J. S. was brought to the Hospital by his friends, who said he had been behaving in a very strange manner. He had gone out half-dressed and wandered from home, talking incoherently, and had been brought back by a policeman. On admission he appeared weaker and more anæmic; saliva flowed from the left corner of the mouth, the degree of deafness was greater, and he complained of headache. His tongue was much furred, and the bowels constipated. He was ordered milk diet, four ounces of wine, chop, arrowroot, a purge, and some medicine containing quinine and iron. The headache continuing, after a few days it was altered to iodide of potassium and quinine.

On January 9 he was incoherent in his speech, but frequently complained of headache. He experienced great difficulty in drinking, liquids running from the corner of his mouth. The atrophy of the temporal, masseter, and other muscles of the left side of the face much advanced; when the mouth is widely opened the maxilla inclines to the left. The left eye is partially open, the cornea opaque. He has slight perception of touch in the cornea and in the parts supplied by the fifth on the left side except in the supra-maxillary and temporal regions, which are quite insensible. He is unable to hear the ticking of a watch when placed close to the left ear, and the hearing was greatly impaired also on the right side. He walked very unsteadily, the right leg appearing to be the weaker. There was no loss of sensation in the extremities. At night he slept well and remained quiet. During the day he was for the most part very dull, and almost unable to reply to questions; occasionally, however, he

was tolerably lively. His temperature at this time was 98·7°; his pulse slow (54), and of small volume. The respiration 20 per minute. He took his food well, after it had been cut up for him.

January 12.—His sleep was much disturbed last night, and he was this morning unable to recognize anybody. Occasionally he sighs deeply, and pulls the bedclothes about. Tongue furred. When he was thoroughly aroused he attempted, on being told to do so, to protrude his tongue. Particles of food often entered the glottis, producing violent spasmodic cough. He laid chiefly on his back; on being addressed his lips moved, but he uttered no sound. Pulse 60; Resp. 16; Temp. 98° in both axillæ. The urine was now passed involuntarily.

January 14.—The tongue was very dry and parched, with a thick fur. He could take no solid food; he occasionally made some inarticulate mumbling sounds. Pulse 60; Resp. 20; Temp. 98°. On the 17th there was a temporary marked improvement. He replied to questions, and stated that he could see a little with the right eye. Both corneæ were covered with mucus, and the epithelium was separating from the right cornea.

January 21.—Very quiet. Pulse 52; Resp. 20; Temp. 98·6°. The water still passed unconsciously; he could not be roused. The limbs were tossed about. The right eyelid was kept half closed; the left always and unwinkingly wide open.

January 23.—An ulcer appeared on the right cornea, at the lower margin, just at the part exposed to the air, in its ordinary half-closed state; the rest of the cornea clear and bright.

The only noticeable symptoms during the next ten days were, that the pulse rose to 120, and became very small and thready; the temperature at the same time rose to 101·2°. He understood questions, and replied by nodding or shaking his head. The sensibility of the right cornea seemed to be lost. The ulcer gradually extended, and there was some chemosis of the conjunctiva, which was limited to the part exposed between the lids. Injections of warm water were systematically administered. Food, when placed in his mouth, he chewed and swallowed, but never asked for any. Urine was passed about every two hours involuntarily.

On February 6 the following note was taken, showing the condition of the eyes:—

'There is an ulcer on the lower half of right cornea. The

superficial layers have become detached, leaving a whitish surface, but there is no opacity at the margin of the ulcer, which is very well defined, and corresponds exactly with the surface left uncovered by the half-open lid. Iris acts slightly. Conjunctivæ chemotic, congested slightly, as are also the sub-conjunctival vessels. There is no well-defined circumcorneal zone. Left cornea quite dry and shrivelled and prominent. Conjunctiva generally dry. Slightly congested.'

On February 11 he was still in a semi-unconscious state, lying quite still throughout the greater part of the day, but striving to answer questions when addressed. He was unable, however, to make any audible sound. In the left eye there was a prolapse of a portion of the iris through a wound of the cornea, caused by his accidentally scratching the surface with the finger. The conjunctiva was also generally dry, and moderately congested. Pulse imperceptible. Resp. 32.

He died at 2 A.M. on February 12.

Post-mortem Examination.—Examination thirty-six hours after death. Temperature of post-mortem room, 60°.

Body extremely emaciated. Several scars of ulcers on both legs, and one in the left groin.

Skull-cap very thin. Veins somewhat full.

The arachnoid thickened. The substance of the brain generally is softened. It was a question whether this was an ante or post-mortem change. Slight yellowness and softness of left cerebral hemisphere, on a level with corpus callosum. On the right middle lobe is a considerable area of softness. On the lower surface of the posterior cerebral lobe is a circumscribed patch of extreme softness. Occupying the centre of the left half of the cerebrum is a hard brownish grey tumour, about 1¼ inch in diameter. In the right hemisphere, a little outside the centre, is a collection of hard brownish substance, like that situated in the left.

Optic commissure not soft.

The membranes at the base of the brain were apparently perfectly healthy. No disease was apparent in any of the cerebral nerves. The fifth in particular was followed out from its apparent origin, but it did not present any visible changes, either in aspect or consistence. The brain and eyes were removed for further examination, and were carefully prepared, and sections through the tumours made by Mr. H. Symons. The tumours, when examined under the microscope, presented a finely-granular appearance, without other structure, except

that here and there a capillary traversed it. The margins were very ill-defined to the naked eye, and were still more so under the microscope. There was no kind of capsule, but the finely-granular structure faded off into the healthy tissue.

Examination of the eyes exhibited very little of importance. The epithelial layer, where not already detached, separated very easily after short maceration in spirit, but the cornea presented otherwise its usual characters. The irides were thickened, but the retina and choroid were healthy.

The singular feature of the case was the little apparent connection between the symptoms observed during life and the morbid conditions present after death. It might have been expected, from the many nerves that were implicated, that some large tumour or abscess would have been found at the base of the brain, or in immediate relation with these nerves; but the tumours in this instance were comparatively remote, though their corresponding position would seem to be associated with, and to account for, the symmetry of the ophthalmic affection, in its later stages at least.

CASE II.—*Double Optic Neuritis. Symptom of Bright's Disease. Death. Tumour found on anterior lobe of the Brain, and in right Optic Nerve.*

George A., admitted November 27, 1872. Over eighteen months ago the patient had dropsy, and since that time his vision has become progressively more and more impaired. but latterly the deterioration has been rapid. Six years ago he contracted syphilis. At the same time when he suffered from dropsy he was an out-patient at the hospital with enlarged liver andurine loaded with albumen. V of left eye $= \frac{1}{2}\frac{5}{0}$, $RV\frac{5}{2}\frac{5}{0}$. Both pupils dilated. Right eye with external strabismus.

Ophthalmoscopic examination showed considerable atrophy of the chorio-capillaris in both eyes, the larger vessels being everywhere distinctly visible and the interspaces very dark. The right disc swollen, grey, with ill-defined margins; the vessels obscured, both as they traverse the disc and for a short distance beyond, owing to œdema around the papilla. The left fundus presented similar appearances, except that one vessel (the descending internal vein) was altogether lost near the margin of the woolly disc, re-appearing beyond it. The patient was put on full diet, with 7-grain doses of iodide of potassium and a blister to the temple twice a week.

December 5.—The renal symptoms have been gradually increasing; he has constant sickness in the morning, and the urine is more than half albumen. Becoming worse on December 21, he was removed to Matthew (medical) Ward, where he died on January 16, 1873.

On post-mortem examination a soft friable yellowish mass, about the size of a horse-bean, was found on the inner surface of the dura mater, over the anterior part of the right lobe, which was quite soft at this part. The convolutions of the left cerebral hemisphere much flattened; no fluid in the ventricles. There was extensive softening of the left hemisphere about the corpus striatum. The right optic nerve between the commissure and the orbit converted into a tough tumour, the size of a small cherry, which, under the microscope exhibited a malformed molecular mass, with lymph-like cells; similar tumours existed alongside the olfactory bulbs in the left Sylvian fissure, surrounding and greatly narrowing the artery there. Both third nerves much swollen, especially the right. The other nerves appeared natural.

CASE III.—*Optic Neuritis supposed to be due to Tumour, or other Disease in the Cerebellum.*

J. T., æt. 18, was admitted under my care into the Westminster Ophthalmic Hospital, on November 16, 1872, with a well-marked attack of double optic neuritis. His mother, who brought him, stated that his vision had only failed during the preceding three months, but that about four months antecedently to the failure of sight he had complained of severe pain in the head with sickness, and pain in the right arm.

About nine years before he received a blow on the back of his head from a fall. When admitted he was pale and anæmic. The pupils of both eyes were dilated, but acted slightly on exposure to light. The vision was reduced to $\frac{20}{70}$ in both eyes. He had no pain in the eyes, but some headache, chiefly affecting the frontal and occipital region. The tension of both eyes normal. On ophthalmoscopic examination the discs were found to be very hazy and the margins indistinct or blurred; both veins and arteries were large, especially the former, which were also tortuous. The vessels were partially obscured as they crossed the swollen disc. He was told to remain in bed, a purge was given, and he was ordered some strychnia (♏iv.) and tincture of iron (♏xx.) three times a day, with the subcutaneous injection of $\frac{1}{40}$th of a grain of strychnia.

On November 18 he had had severe pain in the head, with vomiting; and as it was thought that these symptoms might have been produced by the strychnia, it was stopped, and he was ordered instead five grains of the iodide and five of the bromide of potassium. On November 20, vomiting still continuing whenever food was taken into the stomach, he was placed on milk diet, and soda-water with a little brandy and ice were given at frequent intervals; the vision was rather worse, and no change was observable in the condition of the discs. On November 22 the vomiting had ceased, and he felt somewhat better. A thirty-second of a grain of perchloride of mercury, in decoction of cinchona, was prescribed to be taken every eight hours. On December 3 it was observed that he had become very deaf. There was no discharge nor any sign of inflammation about the ears.

On December 24, his general condition having remained in the meanwhile but little altered, pain in the back of the head was the principal symptom. The results of an ophthalmoscopic examination are thus given in the notes: margin of right disc more distinct; the disc itself elongated vertically outwards and upwards and downwards and inwards. Vessels more distinctly visible as they cross the disc, and presenting a well-marked curve as they pass over the borders. The left disc still more distinctly defined. Veins varicose and enlarged. On the disc were two or three whitish radiating lines, narrow near the centre, but becoming much wider towards the periphery of the disc. The rest of the disc was greyish, pink, and hazy. Fovea centralis darker than natural, like hæmorrhea. Vision of right eye $= \frac{12}{70}$, of left $= \frac{21}{200}$.

December 30.—I had an opportunity of showing the patient to Dr. Hughlings Jackson, who noticed the slightly tottering gait of the patient when he was made to walk across the room, and expressed himself strongly in favour of the view that the patient was suffering from cerebellar tumour.

February 4.—The sickness still continues after food, deafness is increased, urine and fæces passed involuntarily last night; severe pain complained of in the head. The patient was discharged a day or two after this, and applied at St. Bartholomew's, stating that he had no home to go to, and begging to be admitted. I accordingly made him an in-patient. The vision of both eyes was then found to be $\frac{3}{80}$. The condition of the fundus was the same as already described. Urine: acid, sp. gr. 1,025, no albumen, but containing an excess of phosphates.

He was ordered full diet, with gr.x. of iodide of potassium three times a day in bark.

February 14.—The patient being made to walk, it was noticed that the right leg was by far the weakest, and that there was atrophy of the muscles of both leg and thigh; the staggering gait was much more strongly marked than when he was in the Westminster Ophthalmic Hospital.

On February 20 the iodide of potassium was increased to gr.xv. for each dose; no change in the general symptoms; fæces passed involuntarily, but the patient had some power over the bladder.

February 25.—No change observable in the condition of the eyes. The iodide increased to gr.xx.

March 27.—Patient very weak and anæmic; the iodide stopped, and ♏xx. of the perchloride of iron given three times a day.

April 8.—Still in same condition; deafness marked, but not complete; optic neuritis unaltered; urine and fæces still passed involuntarily. He was now recommended to leave the Hospital, and to return if he became worse.

I heard nothing more of him till the middle of August, when through Mr. Strugnell's inquiries it was ascertained that he was in the workhouse infirmary in Poland street, and I went to see him.

On September 9, in company with Mr. Rogers, the medical officer in charge, I found him in bed, lying on his back, rolling the eyes slowly from side to side. On touching him, he said 'Yes, sir,' but I found he was very deaf. He said 'No,' to the question whether he could see any light. The pupils were of moderate size, not acting with light, but dilating freely under the use of atropia.

I was surprised to find so little change had taken place in the appearance of the discs. They were woolly in aspect, with indistinct margin; the veins large and dark, and obscured as they crossed the disc; no arteries visible; but it was difficult to speak positively on this point, as the constant oscillation of the globe rendered observation difficult. He said 'Yes,' to the question whether he had pain in his head, but could not point to the spot. His countenance was not that of a man suffering pain, but was pale and placid. He had gained in flesh since leaving the Hospital. The patients sleeping near him told me he rarely spoke, that he passed the urine in the bed involuntarily, but that he was lifted out of bed to a commode every morning, and that he had quite lost the use of his legs.

CASE IV.—*Double Optic Neuritis in a Child nine years of age. Symptoms of Cerebral Disturbance, and Death in the course of three weeks. Pathological Character of Tubercular Meningitis found on Post-mortem Examination.*

Martha Lloyd, æt. 9, a pleasant-countenanced and tolerably well-nourished child, was admitted into the Hospital under my care on August 14, 1873, for gradually increasing failure of vision. The step-mother, who brought the child, was unable to give any very definite history, except that the poor little thing had led a hard life, and previous to the step-mother's marriage with the child's father had been much knocked about. There were several other children in the family, all of whom were healthy.

On ophthalmoscopic examination it was found that the media of the right eye, the pupil of which was permanently dilated, were clear. The optic disc of deep rose tint, with very indistinct margin. The veins large and tortuous. Arteries very small. Both sets of vessels obscured by the œdema of the disc, especially those running downwards and outwards. Below, and to the apparent outer side of the disc, a large white spot was visible, nearly equal in size to the disc itself. The patch was crossed by a large retinal vein running across its apparent lower and inner side. The vein made a strong curve as it crossed the patch. It was also traversed by several smaller vessels running in different directions. Along its upper border was a fringe of pigment, and there was one large spot of pigment near its centre. Several white spots, arranged in a nearly circular group, were seen near the apparent inner margin of the disc.

The disc of the left eye presented similar characters to that of the right, but there were no other abnormal conditions of the fundus on admission. $R\ v=0$; $L\ v=\frac{20}{100}$.

She was ordered full diet with milk, a leech to the right temple, and grey powder and sulphate of quinine, a grain of each, three times a day.

August 26.—No change till to-day, when she complained of headache, and that she felt drowsy. Her diet was altered to milk and beef tea. The variation of her temperature and pulse will be found in the table at the end.

August 28.—She vomited her breakfast, and complained of great pain in the head. At dinner-time she refused her food.

She was ordered a purge. The child began to look thin and ill.

August 30.—As the vomiting still continued and the pain in the head increased, she was seen by Dr. Andrew, who prescribed the bromide of potassium, in ten-grain doses every four hours; and as the bowels had not been open since the last purge, she was ordered a simple enema. Her urine was found free from albumen or sugar; no phosphates; abundant chlorides. Dr. Andrew considered she was suffering from disturbance of the nerve centres consequent on the neuritis.

September 1.—The vomiting has ceased. The child sleeps badly, often waking up with a cry. Bowels are very constipated. She is allowed any food she can take, her appetite now having improved.

September 4.—In consultation with Dr. Andrew, it was determined that Wecker's operation should be performed (slitting open the optic sheath); and as it was considered perfectly justifiable, it was done. It seemed to relieve the pain in the head, which was intense. The child took chloroform well.

September 8.—General condition gradually becoming worse. Her sleep is much broken by unconscious cries. She lies in a semi-comatose condition, muttering at times, sometimes delirious; subsultus tendinum well marked this morning. Dr. Andrew considered that her symptoms were probably caused by extension of the inflammation up the optic tracts. The right pupil is dilated and fixed.

September 13.—Since the last note the child has gradually become worse. She is now entirely comatose, and often is bathed in a profuse sweat. On the 10th a soft systolic murmur could be heard, loudest over the base of the heart; the left pupil was also dilated and fixed. There has been no paralysis. For the last day or two subsultus and 'picking the bedclothes' has been almost constant. Her appetite has gradually failed. During her illness her bowels have been very inactive, repeated injections and purges being given. She died at 8.10 A.M.

Post-mortem Examination.—On removing the upper part of the skull, the dura mater appeared congested; there was some lymph along the course of the right middle cerebral vein. When the dura mater was removed, the convolutions appeared flattened, and marked by the membrane; the veins were very full. There was a large amount of fluid—about two ounces—

in the ventricles, the parts around were softened, and the septum in parts broken through; lymph and pus was found in small quantities along the median and Sylvian fissures; the optic tracts were also surrounded with pus and lymph, their texture being much softened; this was much more marked along the right optic tract. There was no evidence of tubercle nor any lymph on the dura mater.

The portion of brain and its membranes affected with the eye were placed in chromic acid, but were not sufficiently hardened to admit of any microscopical examination being made before this sheet had to be sent to press. It may be mentioned, however, that the optic nerve was a little swollen for about three-quarters of an inch from the optic foramen, then presented a well-marked but narrow constriction, and finally was slightly swollen just before its entrance into the globe. As far as could be seen with the naked eye, the fundus of the right eye was healthy. The white spot noted above could not be distinguished after the eye had macerated for a week or two in chromic acid, though perhaps it may be discovered again when sections are made.

Date		Morning		Evening	
		Pulse	Temperature	Pulse	Temperature
			°		°
August	26	114	101·8	112	102·9
,,	27	120	101·4	—	—
,,	28	120	101·4	120	101·8
,,	29	120	101	116	100·8
,,	30	112	100	96	100·2
,,	31	88	100	84	100·2
September	1	86	100·2	84	99·6
,,	2	100	100	—	99·5
,,	3	92	100	80	100·6
,,	4	80	99·8	92	101·8
,,	5	104	102·1	96	102·6
,,	6	104	101·9	100	102·3
,,	7	92	101·6	130	102·4
,,	8	112	102	112	102·6
,,	9	—	101·6	—	102·1
,,	10	100	100·6	112	100·5
,,	11	100	102·1	120	103·2
,,	12	112	101·1	128	103
,,	13	132	103·5	—	—

This case illustrates very well the proposition laid down by

Dr. Hughlings Jackson that double optic neuritis is in a large proportion of cases indicative of coarse disease of the brain. The symptoms of the meningitis in the early period, and even throughout the case, were so comparatively slight as to lead even so experienced an observer as Dr. Andrew to doubt whether any active mischief was taking place in the meninges, and to suggest that œdema of the disc was or might be due to pressure upon the nerve at the optic foramen, and it was on this ground that Wecker's operation was performed. Beyond apparently giving a little relief to the pain, it cannot be said to have been of any service, nor, in view of the conditions found after death, can we imagine it to have proved beneficial in any degree. However, it did no harm; the small wound rapidly healed up; and after death I looked in vain for any mark of the incision I presumed I had made in the sheath.

Article XIV.—*Erythema Serpens.* By W. Morrant Baker.

THE disease to which I venture to draw attention, and to call by the name *Erythema Serpens*, must be tolerably familiar to all who have seen many cases in minor surgery; but, although a trivial complaint, certain aspects are often presented by it which may render it not a little difficult to be diagnosed. That it is often overlooked as a definite variety of erythema, may be fairly assumed from the absence of any account of it in text-books on surgery. In other words, its well-defined causes and symptoms seem to have escaped the notice they deserve, and its value as an illustrative disease has not been sufficiently appreciated.

The disease generally comes under notice in the following manner:—A patient complains of pain in the hand or fingers, and from the apparent distress, often mental as well as bodily, it would seem as if there must be some serious local affection. The hand is carefully covered up—an index of the importance which the patient attaches to the affection. On exposure, however, of the part for examination, the first thing often noted is the apparent absence of anything which will satisfactorily account for the severity of the symptoms complained of by the patient. It is not that the disease is not noticeable, but it seems as if the patient must be exaggerating the consequent pain and general distress.

The disease looks like a mild 'erythema' of some kind or other. There is an inflammatory blush, but not quite an ordinary blush. It is pink rather than red, and not uniformly distributed. It is in blotches or patches—here pink, fading into the natural skin colour; there a large part of the integment quite unaffected. (See Plate.) It affects especially the region of the finger-joints and knuckles, and the patient bends the fingers gingerly, but more as if they were swollen than with the tenderness of movement belonging to an inflamed joint. There is, however, but little swelling altogether. The hand is perhaps a little puffy, and especially about the pink blotches; but the swelling may be scarcely noticeable, and is most often, from many parts of the hand, quite absent.

The pain is described as very considerable, as tingling or burning, and shooting, and for the most part in the hand or fingers only; but some patients describe it as also shooting up the arm. There is, however, rarely any line of redness or tenderness of the forearm; more rarely still of the upper arm, extending towards the axilla; and pain or swelling in the latter region is quite exceptional. Indeed, I have never seen or felt anything worthy of the name of axillary lymphatic gland inflammation in these cases. This freedom from marked affection of the lymphatics is one distinctive feature of the disease.

The constitutional disturbance is not great, but it is frequently, as before observed, large in proportion to the apparent local inflammation. The patient looks usually anxious or irritated, and frightened; partly from some real dread of having a bad hand, but as much from constitutional irritation. This effect is, as might be expected, more evident in women than in men.

The history of the disease is nearly always that a few days or a week before, sometimes even a fortnight or more, the hand or a finger sustained some slight injury, commonly a scratch. But if the part be examined, instead of finding at the seat of injury some explanation of the erythema in the form of a pustule or small ulcer or the like, all that can be discerned is the scar—if so tiny a mark can be called by the name—of a little scratch or abrasion, so apparently unimportant that one would be tempted to say the injury referred to could have had nothing to do with the disease. Anybody, indeed, might have two or three such without being able to say how he got them. The patient, too, complains of no trouble now at the site of the injury, and never had much. There is no history of troublesome bleeding, or of much pain, or of suppuration and then

healing, nor of even a drop of pus. It is only said that the part was accidentally scratched or pricked, and nothing more was thought of the matter until symptoms began to appear like those for which relief is now sought. In some instances the patient will not believe that so slight an injury can have been the source of the subsequent trouble; and in one case which came under my notice no trace of any injury could be discovered, although from the appearance of the disease there could be little doubt of its identity with the cases now referred to.

The want of connection between the original injury and the subsequent erythema is apparent only. A very cursory examination of a succession of cases will prove this. The little scar of the abrasion will be found always, if the disease be seen at an early stage of its progress, to form the centre of a circle, of which the erythematous patches form, more or less irregularly, the circumference. And the history will be found to correspond with this. The patient will mostly say that the injured part gave little or no trouble at first, but that after a while it became tender somewhat, and slightly red; then, that the redness spread around after a circular manner, leaving the injured spot well, and so went on spreading by a larger and larger circle.

The same fact is brought out in a more striking way by the progress of the disease. If, for example, the erythematous blotches are at first about the ball of the thumb, they will be found in a few days to have extended towards the fingers, as well as towards the wrist, and not in one direction more than the other. It will be probably noticed too, now, that the inflammatory blush has crept over the edge of the hand, and appears on its dorsal aspect, while it has also extended towards the palm; but not by continuous œdema, or the uniform redness of ordinary inflammation. In a typical case, its advance will be after the fashion before noticed. It will be by a larger circle of more pink and scattered spots and patches; and the pain and tenderness will be in these, and scarcely at all elsewhere. But, with this extension of disease, the part originally affected will be probably much better—colour, texture, and sensation, all returning to their normal condition.

The progress of the erythema is sometimes more puzzling. Suppose a case, for instance, in the condition last described, with the pink and tender erythematous spots, though not continuous one with another, yet arranged in tolerably close companion-

ship. It may be, that when the patient is next seen in a few days, they will have parted company altogether, and apparently in a promiscuous manner. There is a patch, say, on the back of a finger-joint, the proximal joint of the fore-finger, for example, while another may be on the second phalanx of the middle finger, and a third may be somewhere in the palm. The first-seen inflammatory blush may have disappeared altogether, and barely a trace of the original abrasion may be discoverable. When a case is seen for the first time in this state, the diagnosis may be somewhat puzzling, and especially if the patient does not describe accurately the particulars of the history. But looked at by the light of other cases in various stages of progress, the difficulty disappears, and the nature of the disease is plain enough. The arrangement of the erythema is only at first sight disorderly. The disease has but spread in its own proper and regular fashion; namely, by extending nearly uniformly in all directions, away from the site of injury, leaving one part well when it invades another. In any part of the body the circle of irregular blotches would become by degrees broken as the disease spreads, and especially when it begins to fade out; but when it extends along the fingers the appearance of any orderly connection between the blotches of course ceases altogether.

The cause of the disease is without doubt the introduction of some harmful matter at the site of the small injury from which the disease makes its start; and the kind of poison most commonly introduced at this spot is decomposing animal matter. Perhaps in all typical cases it is so. This would be a fair argument from analogy. But it cannot be always proved.

Among sixteen cases of which I have preserved a record, the cause of the scratch or abrasion was as follows:—

Scratch or small cut by a bone	3
„ while cutting suet	1
„ while dressing 'high' game	1
„ while handling rabbit-skins	1
Bite by a dog	1
Splinter of wood	1
Cut from fall in the street	1
Not aware of the manner in which injury was caused, or not aware of any injury	7

It should be added, however, that I have seen at least as

many more cases; and of these unrecorded cases I am sure six or eight, if not more, have been butchers from Smithfield market, and the injury has been a puncture or scratch by a bone. The number of cases, therefore, in which the cause is almost certainly the introduction of decomposing animal matter will largely preponderate. The fact of these cases being so typical has been the chief reason why no special note of them has been taken. And the same remark may be applied to other unrecorded cases, which I have seen, of women who had scratched their hands while chopping meat-bones.

One of my colleagues has told me that he had a similar affection of the hand for about three weeks, from a dissection-wound.

The prognosis of these cases of erythema may be always favourable. I have never seen a case which ended in any other way than by resolution and gradual disappearance of the inflammation. There has never been, in my experience, any, even the slightest tendency to spread to deeper parts, or to form a whitlow, to become pustular, or in any way to suppurate. There is apparently no inflammation of veins, and the affection of the lymphatics is, when present, so slight as to be in most cases rather a matter of inference from the symptoms than of observation by feeling or sight. The definite manner in which these various troubles, so common in poisoned wounds, are, as it were, avoided, seems of much interest, when taken in connection with the well-defined train of symptoms, and appears to indicate some real distinction between the two groups of cases—a distinction of course merely in degree, but sufficient to deserve consideration, as possibly capable of throwing light upon the different methods by which the dissemination of a poison is effected.

The duration of the disease varies in different cases a good deal. In six cases in which it was specially noted, the shortest was fourteen days; the longest, six weeks. The average was about three weeks; this estimate including the duration from the onset of the symptoms to their disappearance.

The treatment required is very simple. Fomentations with hot water, poultices, and a simple saline aperient, have been almost always found sufficient, and have seemed to have a definitely good effect. Occasionally an obstinate case presents itself, and may require special treatment. But the exception is a rare one.

The cause of this disease, its progress and result, especially its freedom from any tendency to produce local suppuration—

or, on the other hand, to involve lymphatics or veins—offer many points of interest which are worthy of careful consideration.

What is the cause of the complete absence, in these cases, of the tendency to suppuration so common in most poisoned wounds? It is difficult to give a satisfactory explanation. If, with the symptoms described, there were sometimes suppuration and sometimes none, it would be less remarkable. But this does not happen; and, so far as I have seen, a poisoned wound which suppurates has not in any part of its progress the peculiar features which belong to this variety of erythema. Still we must believe that there is no essential distinction in nature between the causes of the two different effects. It is only a difference of degree.

Probably the different amount of injury in the two cases is the explanation. There is but a scratch through the epidermis, or perhaps not always quite through it. It is quite conceivable that the disease may begin sometimes at no lower level than the deeper layers of the cuticle, and it is probably never much lower than the very surface of the true skin. Wherever may be the beginning of the mischief, the surface at least of the cutis is, of course, always sooner or later involved. Both nerves and blood-vessels, as shown by the pain and redness, have their functions exalted. But there is good reason for believing that the disease is essentially confined to the surface. A deep enough puncture by a decomposing bone would probably, if any inflammatory effect were produced at all, produce local suppuration, and commonly also very definite lymphatic inflammation; while a scratch barely through the epidermis may be able only to set up the comparatively trivial disease under consideration.

The excuse for considering these milder cases separately is not that they stand by themselves among poisoned wounds, but because they illustrate the fact that a slight degree of the affection will run its course in its own way, and that a different way in many respects from the more severe. In other words, we can here watch the progress of the disease almost uncomplicated by lymphatic or venous infection. When the latter troubles are superadded, the effect of a poisoned wound becomes complicated, and its proper characters and mode of progress are merged in the greater evil. With œdema and deeply tracking suppuration locally; with veins taking up the poison actively and so that all the blood is tainted; with lymphatics taking it up as far as they can, and

only stopped by becoming themselves the seat of secondary inflammation and suppuration; with such effects as these, the manner in which a taint travels without help from blood- or lymph-vessels is hidden. These milder cases show it, on the contrary, to perfection.

This appears to be the most rational interpretation of the facts at our disposal, and at first sight it looks as if further discussion would be useless; the explanation is so evident and simple. But it may fairly be asked, is not this fact, simple as it seems, worth careful thinking over? Do we know enough at present of suppurative and septic processes to be able to make light of it? May not the consideration of these cases, in which cause, symptoms, progress, and result are all so clearly traceable, help us to understand obscurer instances of similar or allied diseases?

A superficial answer to the question, 'Why does not suppuration occur in these cases?' may be, that the disease is but a mild form of cutaneous erysipelas, and therefore would not be expected by anybody to suppurate. But true as this may be, it does little more than beg the question. It is much more instructive to endeavour to interpret what is obscure in some forms of erysipelas and erythema by the light of a disease very like them, whose origin is so obvious. Many cases of local erysipelas, for example, following operation- or other wounds, become more intelligible when considered in connection with cases of erythema serpens. The particular variety called erysipelas ambulans is probably a nearly-allied disease. The following is a case in point.

I was requested to see a patient in the Hospital whose cancerous breast had been removed two or three days before. There was a wide and well-defined erysipelatous blush around the adherent margins of the wound, with puffiness and marked pain and tenderness here and in the immediate neighbourhood. The patient seemed distressed and feverish. The indications for treatment were evident; and in accordance with them the margins of the wound were partly separated, and with the help of a syringe the interior of the wound was sluiced with a weak lotion of permanganate of potash. The feverish symptoms and local pain and tenderness began almost at once to subside; and the wound and its immediate neighbourhood began to look healthy. But the erysipelatous blush travelled on—by itself, so to speak. It spread over the front of the chest, to the axilla, and to the shoulders. Then, gradually leaving these parts, as it had left the wound, it travelled up the neck and to the face,

at the same time that it extended down the arm and forearm, and finally faded out.

A short time since, I saw the like disease in a boy about five years old. It followed an abrasion of the knee, and the erysipelatous blush travelled both up and down the leg, leaving one portion sound as it involved another, and did not finally fade out until it had crossed the nates, and travelled for some distance down the opposite leg.

Cases such as these suggest a close relationship between erythema serpens and erysipelas ambulans; while both are probably allied, at least in their manner of distribution, to what may be called suppuratio serpens—cases in which suppuration and attendant troubles spread gradually around some focus of mischief, in a larger and larger circle, or over a wider and wider area, and not in the linear direction, characteristic of involved veins and lymphatics. All these again must be related to 'cellulitis,' in its different forms.

What is the nature of the extension of disease from a poisoned spot? What does it mean? What is it that travels? We understand something about lymphatic and venous infection; there is no difficulty in understanding how anything sufficiently small or sufficiently fluid to get into a lymph- or blood-vessel, should be carried along by the stream in the interior; and we see this conveyance daily, or at least, its effects. But if there be no conveyance of poison by these ordinary channels, how is progress effected? The disease under consideration apparently travels quite as readily in a direction opposed to that of the lymph and blood, as in one corresponding with it. The blotches find their way to the finger-ends, quite as much as towards the wrist, and at the same rate. They spread from a centre, and what is a small, red, scarcely broken circle, becomes a larger one, now more broken, and then the circle cannot be traced—its circumference is broken through in so many places. It is not continuity of disease with the original source of trouble, although this may be seen in some cases closely associated with those under consideration; for as it travels on, it leaves its former site altogether. It is true that there are many wandering species of skin disease, besides this erythema from a poisoned wound; but, excepting perhaps the parasitic kinds, their consideration does not help us much. Possibly these cases, whose cause is so evident, may help towards the better understanding of those in which the poison is less within observation.

It seems possible that the consideration of such a disease as

erythema serpens may make more definite our ideas of the way in which some of the so-called constitutional or symptomatic varieties of erythema and its allies are propagated. Urticaria, for example, arising from the ingestion of poisonous matter contained in shell-fish, is commonly explained by supposing a reflected irritation from the stomach and intestines. Or, if the circulation in the blood of poisonous matter is taken into consideration, it is supposed that there is a general influence which renders the skin more sensitive. Both these suppositions may be true. But if a tiny particle of matter off a decomposing bone can produce the symptoms of erythema serpens, there is no difficulty in supposing that minute portions of poison, absorbed from the intestinal canal, and circulating in the blood, may form foci of mischief, if by some means they get out of the current. If it be said, Why is the skin only affected? it may be replied that the fact of their local effects being seen only on the surface of the skin is not a reason for denying that, in some form or other, they are centres of mischief in deeper parts of the skin and other parts. Constitutional symptoms are but local mischiefs in deep-seated and comparatively insensitive organs. And poison-particles may form localized centres of trouble, say, in the brain, and cause what we call head-ache, though the effect of their presence no more resembles a wheal or a bulla than the sensation of a sick head-ache resembles the sensation of itching.

A similar line of reasoning appears to me to be worth following out in order to see if any light is thrown by it upon the artificial production of 'wheals' in urticaria, a phenomenon the explanation of which is of acknowledged difficulty. If the ordinary eruption be but the effect of localization of poison-particles distributed by the blood, it is natural to assume that its site—that is to say, the site of each urticaria spot—is determined by some condition, which, at that particular spot, led to a withdrawal of poison-particles from the blood-current. And if such, to us absolutely imperceptible, conditions, whatever they may be, are sufficient to determine the site of the eruption, it is only what we might à priori have expected, that a nail-scratch would amply suffice for determining a local manifestation of the poison which is circulating with the blood—seeing that all the blood is charged with it. What is the meaning, it may be asked, of the faint pink line which rapidly succeeds a nail-scratch in a perfectly healthy person? It must indicate some local change—a trifling congestion or

hindrance of blood, with a tiny hæmorrhage, perhaps. And, if so, this should be enough for the setting-up of an urticaria poison-spot, by hindrance in or escape of urticaria poison from the capillaries. The exact method by which the poison causes the wheal or papule, or in other words, why it is a kind of papule or tubercle, and not an erythematous blush, is of course not explained. Neither do we know why the sting of a nettle produces a like appearance. We are as ignorant in one case as in the other. But our idea of the nature of the disease will be more definite if we can believe that the manner of production of the local effect is as simple in one case as the other; that the difference is only between an entrance of poison into the tissues directly from without, in one case, and an escape from the blood-current in the other.

Urticaria is taken only as a type and example. Many other diseases will occur to all.

Is it possible that emigrant, or other wandering leucocytes, have anything to do with the peculiar manner of extension of disease from a poisoned spot which is characteristic of erythema serpens? The facts now known regarding them seem to justify a hint of the possibility, although they are not enough to make very hopeful any attempt to raise a theory on them.

Since writing the above, I have been much interested in finding that, under the head of erythema, Dr. Tilbury Fox, in his work on Skin Diseases,* describes a variety of the disease, probably identical with that now under consideration; although in his cases there appears no history of any scratch or puncture—a fact which renders the relationship of the cases which would be likely to come under the notice of the dermatologist and the surgeon respectively of much interest. He remarks: 'I have met with several examples of erythema of the hands, produced by contact with dyes. In the early part of 1870,† a man, æt. 28, foreman in a cheap kid-boot shop, presented himself to me with hands red and swollen in different places, from the action of the dye of the kid-boots, made of sheep-skin, which the man was in the habit of trying on "all the day." The disease first commenced in the fourth finger on the left hand, which "swelled up, and felt hot, stiff, and tender." The redness then extended to the knuckles and the

* 'Skin Diseases.' By Tilbury Fox, M.D. London: Third Edition, 1873, p. 108.

† 'British Medical Journal,' February 5, 1870.

front of the hand. When I first saw the case the hands were much swollen, so that they could not be closed; the fingers looked large; the redness was patchy. In the left hand it was well marked along the outer and palmar side of the little finger, and outer edge of the palm; also above the third finger. In the right hand the redness and swelling was most distinct about the thumb at the part which opposes the fingers, and the skin here looked just as though it were going to blister; it felt hot, and throbbed a good deal; in fact, the parts of the hand principally affected were exactly those against which the boots rubbed in the act of their being tried on to the customers' feet. There was no doubt, from inquiry, that the dye of the boots caused the disease. Rest for a few days, an oxide of zinc lotion constantly applied, and saline aperients internally, soon restored the parts to their healthy condition. The man returned to his occupation soon afterwards, and had a recurrence of the erythema, which he has since prevented by shielding his hands in his occupation with gloves.

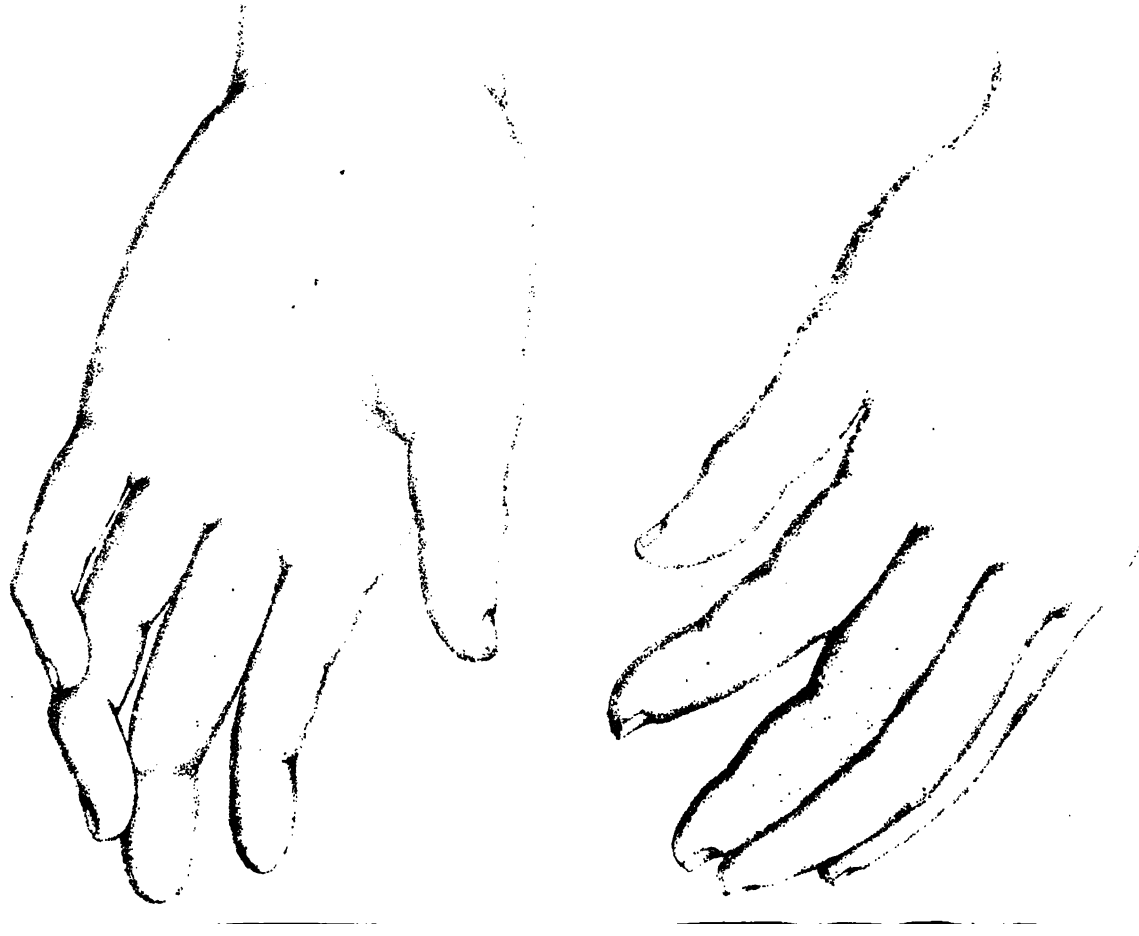
'I also had under my care, about the same time, a similar case, in an inspector of clothing, whose duty it was to examine the cheap black and blue cloths used in a certain establishment connected with the public service, he doing so in a manner that necessarily caused considerable friction of the cloth against those parts of the hand that were inflamed.'

These cases, without doubt, resulted from absorption of a poisonous material, as in the instances before related; and either, as Dr. Fox suggests, in consequence simply of long-continued friction, or possibly through some slight cut or abrasion, too small to have attracted the notice of the patient.

Appended are a few of the cases which have come under my care. All have been Hospital out-patients, and this fact must be my excuse for the fragmentary records preserved. The difficulties in the way of following simple cases to their end, when they soon recover, is too well-known to need comment.

Case I.

June 10, 1871.—J. W., a girl 14 years old, came, on account of patchy or blotchy erythema of the right hand, with the usual characters. (The case is given as it appears in my notes taken at the time.) There are faint nebulous pink patches on the palm; small, undefined, all very tender. The



back of the hand is not now affected; but the knuckles had been quite red, the patient's mother said, a day or two before. She had had some pain shooting up the arm, but this is rather better. No axillary gland enlargement to be felt.

Eleven days ago her thumb was bitten by a dog. There is now only a tiny mark or faint scar to indicate the bitten spot. (See Plate.)

The patient looks and seems anxious.

Hst. Cinchonæ Co., Ol. Ricini, linseed poultice.

June 14.—The expression of anxiety much the same. She has had some shooting pains along the forearm, and says that yesterday there were some spots on the forearm. No axillary trouble.

The erythematous spots have now disappeared from the palm, and appear in the places shown in a drawing made at this date. (See Plate.) The blotches, which are slightly swollen, are very tender; both swelling and tenderness most marked near extremity of forefinger. She is unable to bend the forefinger well, especially at the last joint.

The scar of the bite is now barely perceptible. It appears as if a tiny circlet of epithelium had peeled off.

June 19.—Hand better; less tenderness, and no red spots. Forefinger and middle finger still stiff, and somewhat tender. especially at the last joints.

June 21.—Better. All redness and tenderness gone from palm. The patient can now clasp with her fingers very fairly, though not perfectly. There is one tender red spot on the back of the last phalanx of the little finger, and another tender, but not perceptibly red place, on the inner aspect of one of the joints of the middle finger.

June 26.—Still better. All redness now gone. A little stiffness left at a joint of one of the fingers.

Case II.

July 8.—A woman, æt. 38, applied at the Casualty Department with the following history:—Twelve or thirteen days ago she noticed a small splinter of wood in her thumb, and pulled it out. She did not know when or how she got it. Soon afterwards she suffered from pain and tenderness in the thumb at and about the place whence she had taken out the splinter.

At the present date there is a small healed mark formed by a little roughened epidermis on the inner side of the last joint of the thumb, while at some distance from this—at a place

corresponding in position to the junction of the thumb with the hand (as in the sewing of a glove)—is a complete oval ring of erythematous patches. The patient describes the pink blush as gradually creeping away from the part punctured—leaving one portion of the skin well as it invaded another.

She was ordered a saline aperient, poultice, and fomentations.

July 18.—She improved much soon after the last note was taken; but after leaving off treatment she came to-day with a well-marked pink spot about the size of a shilling in the centre of the palm and another a little distance from it, while a third rather larger than either of these, and less well-defined, was placed a little in front of the pisiform bone.

Treatment, as above, repeated.

July 25.—Quite well.

Case III.

October 19, 1871.—A woman, æt. 42, came to the hospital on account of some pink erythematous spots about the root of the thumb; there were others just behind the ring-finger nail; also on the back of the first phalanx of the same finger. The front of the same finger was tender, but there was no apparent erythema. The patient complained of much tenderness and shooting pain in the parts affected.

In this case I could find no trace of injury of any kind; but there could be no doubt of the nature of the disease.

Ordered a saline aperient and linseed poultice.

October 21.—Better; but still a good deal of tenderness, with some pinkness and puffiness, especially now of the front of the last phalanx of the ring-finger and outer side of last phalanx of thumb.

Treatment repeated.

October 25.—Patient quite well.

Case IV.

February 1, 1872.—A man, æt. 28, applied on account of redness and tenderness of the thumb, on the metacarpo-phalangeal knuckle of which was a well-marked patch of erythema, with an indefinite margin.

At a short distance, but quite distinct from the erythema, was a tiny mark as of detached epidermis, quite healed. Here, a week ago, the patient said, the tenderness began; and since that time it had been in different parts of the thumb. Pointing to different parts as he spoke, he said, 'now it was here,

now there, and now this knuckle.' He attributed the mischief to his having been much engaged lately in handling rabbit-skins.

Ordered a saline aperient and poultice, with fomentations.

February 3.—Better. Now, little or no redness on the knuckle; but a pink spot was to be seen on each side of the thumb farther back, scarcely tender. The sides of the last joint of the thumb are tender, but not red.

Case V.

February 7, 1872.—A girl, æt. 17, came to the Hospital, looking much frightened on account of superficial inflammation of one hand. There was considerable tenderness of the ring and middle fingers, with pain shooting up the forearm and to the upper arm, and a superficial blush on all these parts. There had been some tenderness in the armpit, and this had not entirely ceased. Axillary gland enlargement very slight, if any at all.

A month ago, while 'drawing' a 'high' black-cock, she scratched the back of the last joints of the ring and middle fingers. On one of these the scratch was still not quite healed.

Poultice and saline aperient.

February 10.—Much better in every way.

A few days after this note I saw her again. She was better, but complained of some tenderness on the inner side of the breast, whither the pain had travelled, she said, from the armpit.

This case is not a typical example of erythema serpens; but it forms one of the links between the latter and cellulitis, which the patient—on account, probably, of the trivial nature of the original injury—very narrowly escaped. Doubtless a very little difference in the depth of the puncture or scratch would have sufficed.

Article XV. — *Three Medico-Chirugical Cases.* By James Andrew, M.D., and George W. Callender, F.R.S.

Case I.—*Suppuration in a Misplaced Kidney treated by Operation.*

JANE W., æt. 24, married, with one child, was admitted into Mary Ward on November 18, 1872. For some weeks previously she had been an out patient under Dr. Duck-

worth, with whom I had once seen her in the out-patient room. Two months before her admission her first and only child had been born. The labour itself was, so far as we could learn, quite natural, but during her pregnancy she had suffered from pain in the right side of the abdomen, and had observed that her urine was cloudy and 'got into a jelly' on standing. Two days after her confinement she noticed for the first time a tumour 'the size of an orange' on the right side of the abdomen, about the level of the umbilicus. When she first came as an out-patient this tumour presented all the usual characters of a floating kidney. Its size, shape, and the extent to and direction in which it could be moved, all corresponded with this view of its nature. The right lumbar region also appeared to be less resistant and more resonant on percussion than the left.

The tumour, however, never slipped entirely out of reach; it could always be felt, and moved freely downwards and upwards with the descent and ascent of the diaphragm. At first it was only slightly tender, but pressure on it produced an indescribable feeling of nausea and 'sinking.' During her attendance as an out-patient the tumour increased in size, and became painful and tender. She had also several attacks of rigors. On admission she was rather pale but well nourished, the tongue clean and moist. Appetite fair. Bowels regular. Pulse 80. Temperature 98° F. The tumour, still movable under the hand and with the respiration, now extended into the right iliac fossa, filled up the right lumbar region, and almost reached the umbilicus. Its left edge was indistinct, dipping down among the intestines; its lower border convex, its upper border concave, and the vertical diameter rather less than the horizontal. The urine contained a small quantity of pus. Attacks of rigors recurred from time to time; the tumour varied in size and in tenderness from day to day; diminishing whenever the amount of pus in the urine increased, and again becoming larger and more tender when the urine became clear. The increase in the size of the tumour was attended by well-marked symptoms of hectic fever, shivering, rise of temperature and perspiration; its decrease by their subsidence. Her general condition and the local symptoms exhibited on the whole but little change up to December 27, when she left the Hospital against my wish. On December 30 she re turned much worse, suffering great pain in the tumour, which was much larger, more tense, and not so movable. On January 4, 1873, the tumour extended an inch to the left of the

umbilicus, and was almost fixed. About this same time she had attacks of diarrhœa and bilious vomiting, as well as of hectic fever. Her health continued steadily to decline, she lost flesh and strength daily, the quantity of pus passed on the whole increased, and the pain became much more severe, requiring frequent subcutaneous injections of morphia. She took quinine and steel, effervescing draughts with hydrocyanic acid or morphia, according to circumstances; but it became clear that the case was a hopeless one unless some relief could be given by surgery. I therefore placed her under the care of Mr. Callender, who has furnished the following account of the surgical treatment and progress of the case:—

Having been transferred to Sitwell Ward, February 14, 1873, and chloroform having been given, she was removed to the operating theatre, and being placed on her left side, a long trochar and canula were passed through the abdominal wall at the point at which fluctuation seemed most distinct, and which corresponded with the middle of a line drawn from the extremity of the last rib to the crest of the ilium. On withdrawing the trochar pus flowed freely; the canula was then closed and left in situ.

An incision, slightly oblique from above downwards, was next made through the various structures forming the wall of the abdomen, until the sub-peritoneal tissue was reached. Following the line taken by the canula, it then became necessary to open the peritoneal sac, after doing which by a free incision, the smooth surface of serous membrane, covering the tumour from which the pus had escaped, was fairly brought into view. The two surfaces of peritoneum, above and below the wound, were next sewn together with silver wire sutures (great care being taken to prevent the escape of blood into the serous cavity), so as to lessen the risk of any subsequent flow of pus between the layers of the peritoneum. The long canula was then removed, and through the aperture at which it had passed a much larger and perforated drainage tube was introduced, and by means of this a quantity of pus was evacuated. The tube was secured in the wound, and the patient was removed to the ward. She slept fairly after the operation, and had no complaint to make. 18 oz. of a comparatively clear fluid were passed from the wound, and 32 oz. of urine from the bladder.

February 15.—Had slept well, after morphia; discharge scanty, but still clear, having an acid reaction over night, but being alkaline in the morning. It contained blood and pus corpuscles.

February 16.—Continued free from pain and discomfort. Discharge from side, 3 oz.; quantity of urine passed, 30 oz.

With the exception of a somewhat troublesome cough she made good progress, the discharge continuing, but in comparatively small quantity, and having, for the most part, the character of thin pus. The tumour subsided, but, although less prominent, still extended to the umbilicus.

After a time, March 11, without any marked symptoms having previously arisen, she began to desquamate freely and generally as if after scarlet fever; but during, as before this process her general condition was good. On March 20 the canula was still kept in the wound, and there was considerable daily discharge, but the patient had improved in health. On March 28 she was re-transferred to Mary Ward. The treatment after the operation consisted in the occasional administration of morphia, and in attention to the cleansing of the wound with carbolic acid dressings. She took food well from the first. The variations in pulse, temperature, and respiration for nine days following the operation, are given at page 7 of this volume. (Table III., No. 47.)

On her return to Mary Ward the improvement continued. The quantiiy of discharge on the whole diminished, although a little difficulty arose now and then from the partial closure of the orifice. Her general health became all but perfect, her only annoyance being due to the difficulty of keeping the canula in position. The urine remained free from albumen, except in connection with the continued presence of pus. Of her present condition I cannot unfortunately give any account. We had obtained admission for her into the Sussex County Hospital at Brighton, in the hope that the change of air might aid the closure of the abscess cavity, but she did not go there, and we have been unable to trace her movements.

This case is in many respects a very remarkable one. I believe it to have been an instance of 'strangulation' of a so-called floating kidney. My diagnosis rests on the fact that the tumour opened by Mr. Callender was undoubtedly the same one which, on her first coming under observation, had presented all the physical signs of a displaced kidney, the history being also the one most common in such cases, viz. a tumour with certain characters on the right side in a female, and first noticed after the birth of the patient's child. The gradual enlargement, loss of movability, and increasing pain and tenderness, were watched from day to day. It is impossible for me to believe that the tumour became either

gradually involved in, or replaced by an abscess of deeper origin, whilst the exact correspondence between the state of the tumour, the symptoms immediately connected with it, the hectic fever, and the amount of pus in the urine, proved that if the abscess were not actually in the kidney itself, it was at any rate connected with some part of the urinary tract. At the time of the operation, when the tumour had become fixed, it was of course out of the question that those who then saw it for the first time should feel the same certainty as to its nature. The case was one fairly admitting of some doubt and of difference of opinion. It was thought by one of my colleagues to be an abscess due to cellulitis after delivery, but a careful vaginal examination failed to detect any evidence of disease in the uterus or pelvis. Again, the straw-coloured fluid discharged through the abdominal opening corresponded very closely in its physical characters with the urine passed at the same time per vias naturales, except that it contained a larger quantity of pus. I regret that the presence or absence of urea was not ascertained by actual chemical analysis; the attempt was made, but the difficulty of doing so was very great in consequence of the presence of pus. It ought also to be remembered that the function of the kidney must have been most gravely interfered with, and that its secretion might thus have ceased to present its normal characters. It is certain that circumscribed abscesses had formed either in the kidney itself or close to it, for on two or three occasions some ounces of very fetid pus passed through the canula quite distinct from the usual continuous flow of straw-coloured fluid, with a creamy sediment. But it is difficult to believe that an abscess beginning in the cellular tissue about the kidney, and subsequently penetrating the organ, could have presented the physical signs which marked this tumour when it first came under our notice. The strangulation of the kidney I believe to have been due to the position into which the organ had been forced, turned as it was half round, its lower end brought upwards and inwards, its upper end at the same time somewhat pushed downwards; both the vessels entering the kidney and its ureter must have been partially twisted. A floating kidney is commonly looked upon as causing sometimes a good deal of annoyance and inconvenience, but rarely, if ever, any serious danger. If the view, however, I have taken of this case is correct, it is clear that surgical interference alone averted, or at least delayed, a fatal termination.

Case II.—*Leukæmia treated by Transfusion of Defibrinated Blood.*

Ellen P., æt. 7, was admitted into Mary Ward on March 24, 1873. The child was rather short for her age, but broad set and well nourished, with light flaxen hair and grey eyes. Complexion anæmic; skin rather dry and warm; tongue red, clean and moist; appetite good; bowels regular. Respirations, 20 per minute; pulse 189, of fair volume, and regular; temperature, normal. Urine contains no albumen. On the left side of the neck and in the parotid region a mass of enlarged glands, the largest the size of a hen's egg; the occipital glands similarly enlarged. The glands on the right side enlarged, but to a much less degree than those on the left. The spleen much enlarged, extending some distance below the left hypochondrium. A loud venous hum was heard on the left side of the neck, but the heart and lungs were healthy. The blood under the microscope presented an unusual number of white corpuscles. She had always lived in London, and enjoyed good health until the glandular swelling began about two years before her admission into the Hospital. Her parents assured me that the glands on the right side of the neck had been about twelve months before much larger than those on the left, and had gradually diminished. She had two brothers and two sisters, all healthy and quite free from any glandular swelling.

The enlargement of the glands and of the spleen, together with the results of the microscopical examination of the blood, left no room for doubt as to the nature of the case. At first I employed quinine, the child taking doses of one to two grains four times a day. This had seemed to give temporary relief to a similar case under my care at this same time. After remaining for some weeks in much the same condition, except that the glands, the spleen, and the number of white-blood corpuscles all were slightly increased, the child began somewhat suddenly to get worse. She had attacks of diarrhœa; the appetite failed, and the temperature rose, frequently reaching 102° F. Under these circumstances I determined to have recourse to transfusion, being encouraged to do so by the report of two cases of leukæmia treated thus by Dr. Fr. Mosler* with at least temporary success. In a disease so invariably fatal as leukæmia, it is surely not merely excusable, but our duty to use any means which hold out a promise, however faint, of success. Out of

* 'Ueber Transfusion defebrinirten, Blutes bei Leukæmie und Anæmie von Dr. F. Mosler, Professor in Greifswald.' Berlin 1867.

62 cases of leukæmia which I had tabulated from various sources, Mosler's were the only ones in which treatment seemed to have been followed by any beneficial result. It is right that I should state that my colleague, Mr. Callender, gave an unwilling consent to the operation. On the morning of the first operation the child's temperature was 102° F. In the evening of the same day it had fallen to 99° F., and the next day was normal. The quantity of blood injected was one ounce. The blood drawn from the patient for examination contained a considerable excess of white corpuscles. The proceeding was followed by marked improvement for a time: the temperature remained normal, the diarrhœa ceased, the general condition of the patient improved, with returning appetite; the glandular swelling, the enlarged spleen, and the leukæmic condition of the blood, all decreased. The only unfavourable circumstance was that a troublesome sore made its appearance on the thumb of the side on which the injection had been made, and that the operation wound was long in healing, slight suppuration taking place in it. Still, the result on the whole had been so satisfactory, that when the state of things again altered for the worse, the temperature rising, the appetite failing, and the diarrhœa recurring, I deemed it my duty once more to have recourse to transfusion. This was done about five weeks after the first operation. The left arm was chosen, and about three ounces of defibrinated blood injected with complete success so far as the operation and its immediate results were concerned, for it was again followed by marked improvement in the general and local symptoms. During the first few days there was considerable œdema over the enlarged glands, but when this subsided the glands were found to be smaller and softer. Unfortunately the benefit was again only temporary; the child's general condition fell off, the sore on the thumb proved very intractable, and as her friends were unwilling to consent to a third operation, I advised them to send her for a time into the country, if possible to the sea-side.

I have not been able to learn her subsequent history since she left the Hospital at the end of July. I regret that, from the notes of the case having been lost, I have been unable to give the full daily details; but the above account, so far as it goes, is strictly accurate. My experience of this case, together with the two reported by Mosler, has convinced me that transfusion is at least well worth a further trial in leukæmia, and I regret that I was unable to employ it in the other case which was under my care at the same time, and which has since ended

fatally. But the prejudices of patients and their friends, together with the difficulty of obtaining a supply of blood, are often insuperable. As to the mode in which transfusion does good, I could offer at best only a theoretical explanation; but I have no doubt that it did, at all events for the time, arrest the progress of the disease. I am indebted to Mr. Callender for the following account of the operation:—

My experience of the two occasions on which I have had an opportunity of performing the operation of transfusion has left on my mind so strong an impression as to the great care which its practice requires, with a conviction that it is one which the least oversight might convert into a fatal procedure, that I desire to record my opinion that it should not be lightly undertaken as a remedial measure, and certainly should not be practised without taking every precaution to ensure a successful result. Of course, for a certain class of cases, when the imminence of death may justify and even call for prompt action, some risks may have to be incurred from inability to ensure at the moment perfect appliances, but my remarks on this operation refer to its performance when it can be deliberately prepared for.

The operation of transfusion, as practised in the case under consideration, may be described as consisting of three distinct procedures:—

(1) The supply and preparation of the blood to be injected.

(2) The charging of the instrument to be used for the operation.

(3) The opening of the vein, the introduction of the tube, and the injection of the blood.

1. The blood, for either operation, was taken by ordinary venesection from the arm of a healthy male. At my request no more blood was drawn than was absolutely required for our purpose. I do not think it so light a matter to take blood that we are justified in removing more than is absolutely needed; and in proof that this statement is not lightly made, I may state that two cases are within my knowledge in which a considerable quantity of blood having been taken for injection (in either instance without avail in a case of hæmorrhage), the persons who were thus let blood were permanently injured in health. One of these cases occurred in the practice of the late Mr. Stanley; the second was under treatment in one of the London hospitals.

The blood, after being drawn, was at once placed in a metal egg-whisk, with which Mr. Morrant Baker defibrinated it for me. Five ounces of blood were thus prepared for use in six

minutes, its temperature being maintained by means of a warm-water bath. It may be remarked that the small quantity of fibrine thus removed will perhaps surprise an operator who is for the first time conducting this preparation of the blood.

2. Whilst the blood was being defibrinated, the funnel syringe, which was used on either occasion, was warmed and filled with tepid water. This was discharged, and the operation was repeated until all air had been expelled from the cylinder. It was then filled with water, and this was ejected with the exception of a quantity sufficient to fill the tube connected with the syringe. Enough water was also left in the funnel to cover the bulb of the thermometer, and the syringe was then kept by an assistant ready for use, but held under water, so as to avoid all risk of the entrance of air. The space between the two walls of the funnel being filled with warm water ensured the subsequent maintenance of the temperature of the blood which was to be injected.

3. The syringe being in readiness, I opened a vein at the bend of the elbow, the patient in the meantime having been brought under the influence of chloroform—without which, having a child under treatment, I think it would have been almost impossible to have operated. Before, however, the actual injection was commenced, care was taken that the patient should be coming out from the effects of the anæsthetic. The vein having been exposed (and a very small vessel the largest is at the bend of such a child's elbow), its front wall was lifted with a fine pair of forceps, and it was opened transversely. The wall being continuously held forward, the opening was kept freely patent until the end of the slightly flexible tube connected with the syringe had been introduced. The forceps were then removed, and the end of a finger was lightly pressed over the tube as it lay in the vein. At either operation a small quantity of the patient's blood was received into a glass test tube, at Dr. Andrew's request, for subsequent examination; but bleeding from the vessel was effectually controlled by finger pressure above and below the point of incision into its canal. After the introduction of the tube, its pressure was enough to preclude any hæmorrhage.

The syringe, the vein having been opened, was handed by an assistant, and its tube was introduced. Its funnel was then filled with defibrinated blood, and this was slowly injected to the quantity determined upon. The tube was then removed and the wound was closed, a compress and bandage being applied, as after ordinary venesection.

The injection had absolutely no immediate effect upon the patient.

I would repeat that this operation requires to be done with great nicety, its several parts being carefully arranged so as to avoid any interruption of the procedure. It is probably the only one which can be practised for these cases with any prospect of success, for other methods of transfusing are rough and liable to accidents, or are not practically feasible. For instance, it is sufficiently difficult to find anyone who will submit to be bled in the interest of such a case as the one here referred to—one not urgently threatened with death; but it is next to impossible to get anyone to submit to direct transfusion, owing to the very natural objection entertained to the introduction of a tube into the vessel of the arm.

The operation, as here described, is absolutely safe against the passage of air into the vein. It can, however, only be practised with defibrinated blood, as with ordinary blood the time it takes would certainly give occasion for the blocking of the syringe or of its tube with coagula, which if forced into the vein might occasion remote and fatal obstructions in the circulation. I have no experience respecting the injection of the blood of animals, but I should not feel disposed to experiment with it.

In the present instance, I should add, the operations were performed at the request of my colleague (Dr. Andrew), and were necessary factors in the treatment which he desired to adopt.

Case III.—*Litho-Nephrotomy.*

N. Ann Y., æt. 44, was admitted into Mary Ward at the beginning of last June. She was greatly emaciated, had marked symptoms of hectic fever, and on the right side of the abdomen was a large oval tumour, its long diameter vertical not touching the liver, extending into the right iliac fossa, and inwards nearly to the umbilicus; the ascending colon was traced over its anterior aspect. She had first noticed the tumour about six months before admission, its appearance being attended by great pain in the right side, extending down the inner side of the thigh, increased frequency of micturition, the urine frequently containing blood and subsequently pus, which was present in large quantity on her admission. The pain and suppuration were surely and rapidly wearing her out; and when all treatment proved unavailing, and there was, from repeated examination, no reasonable doubt as to the nature of the tumour, viz. enlargement of the right kidney, almost cer-

tainly due from the history to the impaction of a calculus, I determined to endeavour to give her relief by an operation, being further encouraged to do so by the favourable result obtained in the case of Jane W. For the further details of the case I am again indebted to Mr. Callender, the patient having been removed to a surgical ward.

Sitwell Ward, June 23.—Agreeing in all details with those brought under my notice by Dr. Andrew, I further agreed with him that the case was one in which the symptoms indicating stone in the pelvis of the kidney were so marked that it would be justifiable to operate for the removal of the calculus; and, further, in view of the patient's general condition, that the operation should be practised without delay.

Chloroform having been given, and the patient having been taken to the operating theatre, an incision, about four inches in length, was made in the right lumbar region, as for colotomy; and after dividing the wasted abdominal muscles, and recognising as the most important landmark the outer border of the quadratus lumborum, the fascia, and then the fat covering the kidney, were exposed. The kidney itself, it must be remembered, owing to the changes which had resulted from the disease, occupied a larger area than it would have filled in its normal state, and therefore descended lower and was proportionately more readily got at. Dividing its capsules by a nearly vertical incision, its tissue was exposed, and after cutting through a layer of this, not more than two-eighths of an inch in thickness, a mass of concrete pus was brought into view, and through this a canula when passed struck, at the distance of three-quarters of an inch, the surface of the calculus. The incision was now extended so as to leave an opening, over two inches long, at the bottom of which the dried-up pus-like material was scooped out until the stone was fairly exposed. This was found to be firmly held, as was to be expected, by prolongations of calculous matter into the calices, but by removing with a gouge the soft phosphates which formed its outer portion, it was presently moved, and by breaking across with a pair of bone forceps two outlying masses, it was, without much difficulty, lifted out from its berth. Some detached fragments were subsequently taken away with the scoop and with the fingers, and the pelvis of the kidney was washed out with some tepid solution of Condy's fluid. There was no hæmorrhage. The wound was left open. In the evening of the day of operation the patient was comparatively free from pain, had taken food fairly, and had passed water — the urine containing

a large quantity of pus. There was also a free discharge of puriform fluid from the wound. Pulse, 96; Temp., 98·6°; Resp., 21. The calculus was composed of lithates coated with phosphates, and weighed 1·55 ounces, without fragments which had been detached.

June 24.—The patient had slept well after an injection of morphia, but she was in a very feeble state, with dry tongue and sordes about the teeth, and there was no kind of action in the wound. Food was taken well. Urine was passed freely. She dozed during the day, but at night time was still in an exhausted condition.

Pulse, $\frac{\text{M. } 108}{\text{E. } 75}$; Temp. $\frac{\text{M. } 99{\cdot}2°}{\text{E. } 97{\cdot}2°}$; Resp. $\frac{\text{M. } 28}{\text{E. } 24}$.

June 25.—She passed an indifferent night, and suffered from vomiting. She was free from pain, but seemed more feeble. Food taken well. Urine still containing a large quantity of pus. During the day she felt sick, and refused food in the evening. Later she grew restless, and complained of tenderness about the abdomen, which was relieved by the warmth of a linseed poultice.

Pulse $\frac{\text{M. } 108}{\text{E. } 136}$; Temp. $\frac{\text{M. } 97{\cdot}2°}{\text{E. } 98{\cdot}8°}$; Resp. $\frac{\text{M. } 24}{\text{E. } 27}$.

June 26 —She sank rapidly during the night, became cold, but remained free from pain. There was no action about the wound, which, being rather offensive, had been already cleansed with a carbolic-acid lotion. Micturition free, but the urine laden with pus and strongly ammoniacal. She died at 1.25 p.m.

Pulse $\frac{\text{M. } 144}{\text{Noon, } 128}$; Resp. $\frac{\text{M. } 33,}{\text{Noon, } 46}$.

No post-mortem examination could be obtained.

This woman was made no way worse by the operation. She was failing before it was practised, and the end came as it probably would have come had no operation been interposed. Her case proved the facility with which the removal of a renal calculus may be effected; but in this instance the wasted muscles and the well defined tumour were conditions which favoured the steps of the operation, and these could not, of course, be always reckoned upon. If I have again to practise it, there is no modification I would make (save under exceptional conditions) in the line of incision, which should be planned to strike somewhat obliquely across the outer border of the quadratus. That border, when exposed, should be the guide for the deeper incisions towards the coverings of the kidney, which in these cases may be expected to have dis-

placed forward the colon, the only structure which can have to be considered in cutting from the quadratus muscle. Having exposed the kidney, it may be conveniently sounded with a fine trochar and canula; and if a calculus is present, the operator should be prepared, after exposing it, to detach it from some at least of its prolongations into the calices, which prolongations may be subsequently removed; and this should be done before any but the gentlest attempts are made to remove the stone; for it is generally, as we know from post-mortem experience, locked fast in the pelvis by its branching portions, and cannot be extracted until, as has been said, some of them are broken off.

Mr. Thomas Smith, in drawing attention to the operation of nephrotomy,* has referred to the scanty notices respecting it which are to be found in medical works; to the observations, amongst others, of Serapion and Avicenna on attempts at nephrotomy, or the removal of stone from the kidney, by cutting through the muscles of the back (an operation, I may mention, these writers think extremely hazardous, and likely to end in death); and also to the report of Consul Hobson's case by Mr. Bernard. In addition to these I find yet another operation of this kind recorded by Mezeray, in his 'History of France,' the case of an archer of Baguelet, who had a stone removed (by operation in Paris) from the kidney, and who recovered and lived many years after in good health.

Dr. Dawson, of Cincinnati, has given an account of a case in which a calculus was taken from a renal abscess; and a somewhat similar case has been recorded by Mr. Annandale. In addition to such cases, the operation has been practised without finding a calculus. The attention of surgeons being directed to the treatment of renal calculus by operation, we may hope to hear more of litho-nephrotomy as a remedial measure.

I have to thank Dr. Kearney, of Cincinnati, for a communication on the subject of nephrotomy. I should also allude to his article on nephrotomy, so called, in the 'Cincinnati Lancet,' December 1872, p. 709, in which, referring to the literature of the subject, he shows that the greater number of cases of so-called nephrotomy have been simply instances in which abscesses connected with disorganized kidneys, and containing calculi, have been opened and the calculi extracted. I may also add that the term litho-nephrotomy has been used for the case here reported to distinguish it from other operations of a comparatively insignificant nature.

* 'Med.-Chir. Trans.' vol. lii. p. 211.

ARTICLE XVI.—*Proceedings of the Abernethian Society for the Winter Session* 1872–73.

THE Abernethian Society, composed of the Teachers and Students of the Hospital, holds its meetings in the Reading Room on every Thursday evening during the Winter Session, for the reading and discussion of papers on subjects of Medical Science or practice, and for the exhibition of Pathological Specimens.

October 10, 1872. Mr. BUTLIN, President, in the Chair.

Mr. Callender delivered the introductory address.

Mr. Callender commenced by remarking on the length of time during which the Abernethian Society had had part in educating St. Bartholomew's men, and predicted a maintenance of its credit from the support it now receives. He then referred to the advantages such a society offered to a man before passing into the great contest of the world, as thoroughly training him to form his ideas, and so to express them as to enable him to hold his own in any controversy.

Again, Mr. Callender remarked that all should aim to pass beyond the limits of routine work, and to bring before the Society some new theory or practice, based on correct and exact observations made through a series of cases.

He next suggested the advisability of appointing a Standing Committee, to which all specimens requiring careful examination should be referred, so that an authoritative and independent report might be given to the members. Mr. Callender considered that the best work of the future was to be done in the investigation of the action of remedies, and of the causes of disease.

He then advocated the study of classical and mediæval authors, referring to the similarity between the modern and ancient treatment of periostitis, cancer, and some other affections.

In conclusion, Mr. Callender recommended that in recording a case or an observation, the remarks should be short and to the point; not overloaded with comments and suggestions which so many think necessary to add to an explanation of what should indeed, if a fact, be explanatory of itself.

October 17. Mr. BUTLIN, President, in the Chair.

Dr. Hall exhibited a patient with spasm of the triceps muscle of the right arm, suffering no pain, which was being treated with the constant current.

Mr. Leftwich then read a paper on 'The Mode of Production of Laminated Fibrin.' He began by describing the kind of fibrin he was about to consider, and then alluded to three theories as to its production, criticising chiefly that of Mr. Holmes, as being deficient in evidence. Mr. Leftwich then proceeded to explain a new theory as to the formation of fibrin, considering first the conditions under which blood coagulates in the body, and regarding the exposed coat of an artery as a foreign body (in the case of an aneurism). He showed that the fibrin of the blood coagulated on this coat had the power of contracting, the contraction taking place in its short axis, producing a rough surface and thus bringing about a fresh coagulation and a fresh layer of fibrin which in its turn contracting produced consecutive layers of fibrin until the sac was closed; the different layers being of different ages, as the order of contraction took place. Mr. Leftwich then named other situations in which laminated fibrin is found, namely in hæmatocele and embola. He now considered the bearings of his theory in relation to the treatment of aneurism: that rest being allowed to a sac, the number of laminæ of fibrin increased, and that the blood-pressure being reduced the fibrin contracted in its long axis, and thus aided materially the closure of the sac.

Mr. Groves showed a microscopic specimen of cancer infiltrating muscle.

Mr. Ilott showed a growth of cancer in a breast, and a microscopic specimen of cancer intermingled with elastic fibre.

October 24. Dr. HALL, President, in the Chair.

Mr. Groves showed a microscopic specimen of medullary cancer from the orbit.

Dr. Gee read a paper on 'Paralysis of the Cranial Nerves.' He first alluded to the difficulty of giving a perfect definition of the word 'paralysis;' advocating, however, that of Boerhaave. He then divided it into neuropathic and myopathic, and the former into central and peripheral; drawing a distinction between these latter two by the implication or not of the trophic nerves, and the peculiar electrical conditions that followed. The various forms of paralysis of the seventh cranial pair were then referred to, with the diagnosis; but Dr. Gee advised the members not to lay any stress on the deviation of the uvula to one side or other in forming a diagnosis. He then passed on to paralysis of the eighth pair, its causes, its symptoms, and diagnosis; and concluded by a description of paralysis of the hypoglossal nerve.

October 31. Dr. HALL, President, in the Chair.

Mr. Symons read notes of three cases from the surgical wards:—

1. A man, æt. 32, with destructive disease of the ankle-joint, for which Syme's operation had been performed, death taking place two days after the operation. A post-mortem examination discovered hypertrophy of the left ventricle of the heart, and Bright's disease of the kidneys.

2. A man who died after the operation for phimosis. A post-mortem examination showed hypertrophy of the left ventricle and a large ante-mortem clot in the right side of the heart.

3. A girl, æt. 1 year and 8 months, who died suddenly when recovering from a phagedenic ulceration of the labia pudendi. A post-mortem examination failed to detect any lesion.

Mr. Ilott read a case of a boy who had pneumonia of both lungs and effusion into the pericardium and left pleura, following a long immersion in water: tuberculosis set in in the left lung a month after convalescence.

November 7. Mr. BUTLIN, President, in the Chair.

Mr. Marsh read notes of cases of post-pharyngeal abscess, drawing attention to their diagnosis from other causes of dyspnœa by the character of the breathing, the voice, the absence of cough, and the presence of a swelling in the fauces and externally in the cervical region. Referring to treatment, Mr. Marsh advocated the use of chloroform and Mr. Smith's gag, and early incision in the median line.

Mr. Burn read notes of a case of lacerated wound of the leg, occurring on May 2, 1872, in which the question of immediate amputation was raised, in consequence of the extensive destruction of the soft parts. This being decided against, the leg was placed on a back splint, and the wound progressed favourably till the middle of June. It was then 'planted' in twelve places, with very partial success. This was followed by an attack of erysipelas. The wound was again 'planted,' and he was discharged on October 12, the wound not being quite healed. The patient is still under observation. The wound is larger than at the time of his discharge.

Mr. Symons showed a microscopic specimen of fatty infiltration in the fibres of a heart, from a patient who died during the administration of chloroform.

November 14. Mr. BUTLIN, President, in the Chair.

Mr. Symons showed specimens of osteoid cancer from a

femur; also, specimens of recurrent osteo-sarcoma, from the cellular tissue of the front of the thigh.

Mr. Strugnell read a paper on 'Certain Affections of Joints,' specifying particularly simple synovitis and strumous disease of the knee-joints. He referred to the diagnosis and treatment of these two affections, and discussed at some length the question of excision in chronic disease of the knee-joint, and mentioned one case in which shortening of the limb to the extent of 3¼ inches followed excision of the knee.

Mr. Strugnell exhibited specimens of fibrous degeneration of cartilage and ulceration of cartilage.

November 21. Dr. HALL, President, in the Chair.

Mr. Butlin gave an address on 'Ulcers of the Leg.' He divided the causes into those that produce the ulcers and those that prevent them from healing; sub-dividing the former into the exciting and the predisposing, and the latter into those due to excess of nutrition, to deficiency in nutrition, and to specificity.

Mr. Butlin then described more particularly the three most ordinary forms of ulcer: the varicose, the traumatic, and the syphilitic.

November 28. Dr. HALL, President, in the Chair.

Dr. Clay Shaw read a paper on 'The Pulse as an Index for Treatment.' Allowing that in cases of heart disease the pulse as an outpost of the heart was to be looked to as regards its force and frequency, Dr. Shaw did not consider that we were justified in taking it as a guide in the treatment of other disorders, as fevers and brain affections, nor that rapidity of circulation and acerbity of fever necessarily go together. Drawing largely on his experience at Leavesden Asylum, Dr. Shaw instanced cases where digitalis had been given with the effect of rendering the pulse slower and irregular, yet without any ameliorating influence on the excited cerebration of the patients; and again, where hydrate of chloral in full doses had narcotised the patients without influencing the pulse: thus, that there are certain agents which can excite general circulatory action without cerebration, as exercise, warmth, the Turkish bath, diaphoretics, and certain blood-poisons; that there were others that excited cerebration without circulatory action, as the class of poisons called deliriant narcotics; and that there was yet a third class which excited both, as alcoholic stimulants. Dr. Shaw did not consider that the pulse was to be the indication for treatment in mania.

Dr. Shaw then exhibited a collection of pebbles of all shapes (186 in number), that were swallowed by a patient; and all, with the exception of six, found in the ascending colon after death, passed per rectum in four days. No signs of inflammation of mucous membrane appeared at the autopsy.

Dr. Shaw also showed two larger stones, swallowed and passed per rectum, without any deleterious effect on the patient.

December 5. Mr. FURNER, Vice-President, in the Chair.

Mr. Andrews exhibited the heart and lungs of a patient who had died from emphysema, in whose pericardium was a firm cartilaginous or bony deposit.

Mr. Groves exhibited a microscopic specimen of tubercle in the peritoneum.

Mr. Baker read a paper on 'Erythema Serpens from Poisoned Wounds.'

This paper is reported at length in the present volume of the 'Reports.'

December 12. Mr. BUTLIN, President, in the Chair.

Mr. Godfray read notes of a case of 'Renal Calculus, with Hæmaturia as its Prominent Symptom.' The patient, a woman, æt. 52, was admitted in March 1872, with a history of hæmaturia for the two previous years. She died early in April 1872. At the autopsy there were found in the right kidney, which was larger than normal, four calculi, occupying its pelvis. The left kidney was very small, and consisted apparently of only one lobule.

Mr. Groves read notes of a case then in the ward of a patient, the prominent symptom of whose illness was hæmaturia with clots. The diagnosis was that the patient was suffering from malignant disease of the bladder.

January 9, 1873. Dr. HALL, President, in the Chair.

Mr. Jepson showed a man with keloid disease of 18 years standing; he had been under observation for a year, with the result that two patches had grown, whereas a third had decreased in area.

Mr. Adams read a case of rheumatic fever complicated with pericarditis, pleurisy, pneumonia, and chorea. A cardiac murmur was detected five days after admission, and more than a week after this symptoms of chorea set in. A discussion followed, on the pathology of chorea in its relation to rheumatism.

Mr. Adams also read a case of pleuro-pneumonia of the left side.

January 16. Mr. BUTLIN, President, in the Chair.

Mr. Power read a paper on the 'Influence of the Nerves on Nutrition.' Observing first the high development of the nervous system in man, its general properties, and the changes wrought by will or stimuli, he went on to discuss whether the influence of the nervous system upon the process of nutrition was direct or indirect; and considered the views of Samuel, who says that there are trophic nerves derived from ganglia on the roots of the spinal nerves, and those of others, who have shown that trophic disturbances follow injuries of nerves and their centres.

Some arguments were then given against the view of the existence of special nerves and centres (apart from the vaso-motor system), having for their function the maintenance of the nutrition of the several organs and tissues of the body.

1st. That the vegetable kingdom is absolutely destitute of a nervous system.

2nd. That even in the highest animals certain parts of the body—as cartilage, fat, and the white blood-cell—are well nourished, yet have little or no relation to nerves.

3rd. In the case of anencephalic monsters, nutrition is still carried on.

4th. That if the nerve supply be cut off, but the proper flow of blood be maintained, and the part not exposed to injury, no failure of nutrition ensues.

5th. That many heterologous growths develop rapidly, yet are not known to possess nerves.

6th. That it seems the paralysis of nerves supplying a part leads indirectly to failure of nutrition, in consequence of the abolition of its functional activity.

Proving that the evidence so far obtained tended to show that the nervous system influences the operation of nutrition indirectly, either by regulating the supply of blood, or, still more remotely, by influencing the function of each organ.

January 23. Mr. BUTLIN, President, in the Chair.

Dr. Hall read a paper on the 'Health Resorts of the Mediterranean,' giving his experience whilst visiting different places situated on the Mediterranean. Genoa he considered too densely populated and badly drained to be suitable for invalids. Corsica was better, having a pleasant climate, and one most suitable for laryngeal and pulmonary affections. The patients who were most benefited by their residence on the Riviera were such as suffered with chronic rheumatism, gout,

and chronic Bright's disease. Delicate, strumous children also received great benefit from their residence on this coast. The bulk of patients, however, are sufferers from chronic pulmonary consumption.

January 30. Mr. BUTLIN, President, in the Chair.

Mr. Doran showed a specimen of aneurism of the right subclavian artery and embolism of the left femoral, accompanied with dilatation and hypertrophy of the left side of the heart and growths on the aortic valves.

Mr. Smee then read a paper on his apparatus for the distillation of air. The apparatus consisted of a large glass funnel drawn to a point, and closed at the extremity. This was filled with ice, and placed on a stand. He showed that the aqueous vapour of the air condenses on the external surface of the funnel, and runs off the point, in drops, into a receiver placed below. The fluid thus collected was subjected to analysis—first, as to the amount of ammonia contained; secondly, as to the condition of the organic matter obtained; and thirdly, as to the appearance, under the microscope, of stains left on glass after evaporation. Mr. Smee showed that the amount of ammonia in the air of St. Thomas' Hospital was greatly in excess of that of other hospitals, but that there was a minimum of organic matter as compared with other places. He had detected carbonic acid, hydrochloric acid, sulphurous and sulphuric acid in the liquid distilled, but had not determined the quantity of each. He had also noticed under the microscope the spores of fungi in the stains produced.

February 6. Dr. HALL, President, in the Chair.

Mr. Brewer read notes of cases from the surgical wards. The first was that of a man with a recurrent tumour in the thigh. The structure of the tumour, under the microscope, was seen to be made up of spindle-cells, with deposits of ossific granules. The wound that was left was dressed with port wine and eggs, made into a paste with chalk. The second was a man with an ulcer on each leg. One ulcer was dressed with the above-mentioned paste, and the other was treated with water-dressing, and it was noticed that the latter healed the more rapidly. The third case was that of a man who died suddenly in the wards. A post-mortem examination disclosed extensive fatty degeneration of the heart.

Mr. Groves exhibited specimens of the ossified sarcoma.

February 13. Dr. HALL, President, in the Chair.

Dr. Moore read a case of tubercular meningitis occurring in a man æt 23, and remarked on the rarity of such a disease in an individual of that age.

Mr. Jepson read a case of paralysis of the cranial nerves in a man, with the history of a blow on the head, and some evidence of syphilis. Deafness, loss of sensation and of taste, followed in order, together with ulceration of both corneæ. A post-mortem examination showed a distinct tumour in the centre of the left cerebral hemisphere, and an ill-defined one in the right. The brain and eyes of the patient were exhibited to the Society.

February 20. Mr. BUTLIN, President, in the Chair.

Mr. Cripps read a paper on the 'Diagnosis and Treatment of Fractures above the Ankle,' mentioning, first, the usual seat of the fracture; secondly, the causes; thirdly, the differences noticed between fractures of one or of both bones. A diagnosis would have to be made from an ordinary contusion or a sprained joint, by the deformity, by the altered relation of parts, and by the position and extent of the swelling; lastly by crepitus. Mr. Cripps then enumerated the dislocations at the ankle-joint, with their distinctive features, and described the mode of treatment of fractures of the leg in this Hospital, concluding his paper with a discussion on the treatment of compound fracture and compound dislocation.

February 27. Dr. HALL, President, in the Chair.

Mr. Groves read two cases from the medical wards. The first was that of a sub-diaphragmatic abscess in a girl, æt 19. On admission she complained of pain in the left hypochondriac region, accompanied with rigors and vomiting. After death the left side of the diaphragm was seen to have several apertures, some communicating with the left lung. The body of the abscess was below the diaphragm and was walled in by the stomach, spleen, and parietes of the abdomen. Two ulcers were found in the stomach, in close contiguity to the abscess, The second case was one of typhoid fever; the temperature had reached 108·5° before death. A post-mortem examination showed swollen mesenteric glands and swelling of Peyer's patches, with points of ulceration.

Mr. Stowers read three cases from the ophthalmic wards.

The first was one of intra-ocular hæmorrhage without any assignable cause. The second, one of severe injury to the globe, requiring abscission. The third was one of capsular cataract, no lens being found at the time of operation. The result was very good.

March 6. Dr. HALL, President, in the Chair.

Dr. Brunton read a paper on the 'Pathology of Shock;' first describing the condition of shock, as indicated by pallor and coldness of the skin, oppressed and sighing respiration, dilated pupil, and sickness. This was the torpid kind, as distinct from the erethismic or prostration with excitement of Travers, which is characterised by extreme restlessness, appearance of great anxiety, and contracted pupils. The causes of shock were next mentioned: painful impressions, extensive burns, injuries to bones, and special injuries to abdominal viscera and genitalia. Dr. Brunton then explained the causes of the symptoms. First, the weakness of the pulse was considered due to the emptiness of the superficial vessels, the greater part of the blood being probably stagnating for the time being in the veins of the abdominal viscera. The pallor of the skin, and the coldness of the surface, were due to the same cause. The insensibility of syncope was explained by the deficient circulation in the brain, consequent on temporary arrest of the heart's action, conjoined, in a warm room, with dilatation of all the minute vessels of the external parts. The treatment was next referred to, and an explanation was given of the rationale of the action of ammonia in these cases. From experiments the author had made, it was found that ammonia caused contraction of the arterioles, thus raising the blood-pressure to its normal height.

March 13. Mr. FURNER, Vice-President, in the Chair.

Mr. Doran read a paper on 'Stricture and Catheterism,' confining himself chiefly to cases of recent stricture and means for their relief, discussing at some length the pathology of recent stricture, whether due to plastic effusion or spasm, or due to inflammation. After making three classifications of stricture, Mr. Doran recommended the use of silver catheters for old cases, and cat-gut bougies for severe uncomplicated cases, and concluded by making reference to the conditions of the urine likely to prevent the relief of strictures.

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ST. BARTHOLOMEW'S HOSPITAL & COLLEGE.

PRESENT MEMBERS.

SCHOLARS.

1861 Baker, W. Morrant
1856 Barford, James G.
1864 Bateman, F.
1855 Best, Henry D.
1870 Bridgeman, H. E.
1860 Brook, Charles
1851 Brown, John A.
1869 Burn, G. W.
1866 Butcher, W. D.
1852 Callender, George W.
1864 Cole, T.
1871 Crétin, E.
1857 Crowfoot, William M.
1870 Doran, A. H. G.
1868 Field, A. F.
1870 Firth, C.
1870 Furner, W.
1865 Garrett, W. J.
1856 Goodall, Ralph
1869 Haynes, H. E.
1858 Helm, George F.
1862 Hingston, Albert
1853 Humphry, Frederick A.
Ilott, H. J. 1872
Jeaffreson, Horace 1859
Milner, E. 1872
Newman, William 1854
Paine, William 1860
Rhind, Samuel 1850
Rouch, J. R. 1867
Sadler, Michael J. 1855
Senior, Charles 1858
Sharpin, Henry W. 1849
Shepard, W. L. 1865
Skrimshire, C. P. 1869
Smith, H. Alder 1868
Square, W. 1866
Stevens, A. F. 1872
Strafford, T. 1870
Thompson, Charles R. 1850
Turner, William 1853
Verco, J. C. 1872
Vernon, Bowater J. 1862
Walsham, W. J. 1869
Winkfield, William B. 1857

Abercrombie, J., MD Cantab. 1848, FRCPL 1849
Ackland, W. H., MRCS 1847, MD St. And. 1862
Ackland, W., LSA 1823
Acton, W., MRCS 1840
Adam, J., MRCS 1835, MD Edin. 1855
Adams, E. B., MRCS 1850, LSA 1852
Adams, J., MRCS 1848, LFPS Glas. 1859
Adams, J., MRCS 1859, MD St. And. 1859
Adams, J., MRCS 1872, LRCP 1873
Adams, J., MB Aber. 1873
Adams, J. D., MRCS 1858, MD St. And. 1862
Adams, J. O., MRCS, LSA 1865
Adams, R., MRCS 1854, LRCP Edin. 1860
Addenbroke, E. H., MRCS 1866
Addison, C. E., MRCS 1862, LKQCP Ireland 1865
Ainley, D., MRCS, LM 1868
Aldrich, F. E., MRCS 1867
Aldrich, P., LSA 1835, MRCS 1859
Alger, J. S., LSA 1831, MRCS 1842
Allas, L., MRCS 1857
Allen, A. B. de Lisle, MRCS 1845
Allen, E., MRCS, LSA 1842
Allen, G., LSA 1845, MD St. And. 1856
Allen, J., MRCS 1855, LSA 1856
Allen, J. W., MRCS 1855, LSA 1857
Allen, M. H., LSA 1871
Allen, R., LSA 1833, MRCS 1834
Alsop, E., LSA 1843, MRCS 1847
Amsden, J. G., LSA 1837, MD Jena 1853
Anderson, D. H. B., MRCS 1866
Anderton, C., MRCS, LSA 1834
Andrew, J., MD Oxon. 1863, FRCP 1866
Andrew, J. M., MRCS 1855
Andrew, W. W., MRCS 1860, MB Cantab. 1861
Andrews, E., MRCS, LSA 1848
Andrews, F. F., MRCS 1850, MD St. And. 1862
Andrews, A., MRCS, LSA 1869
Angier, G. A., MRCS 1861, MD St. And 1862
Angier, J. H., MRCS, LSA 1826
Angove, E. S., MRCS 1867, LM 1869
Antrobus, D., LSA 1836, MRCS 1859
Archer, E. L., LSA 1872
Archer, G. E., MRCS, LSA 1870
Archer, J., LSA 1830, FRCS 1859
Archer, L. H., MRCS 1851
Archer, T. B., MRCS 1869
Arding, W., MD Edin. 1827
Armstrong, J., MRCS 1828, MD Aber. 1851
Armstrong, S., MRCS, LSA 1861
Arnold, J., MRCS 1861, LRCP 1866
Arnold, J., MRCS 1867
Ascroft, E. H., MRCS, LSA 1830
Ashford, J. B., MRCS 1843, MD Aber. 1851
Ashton, J. H., MRCS 1863
Atherley, J., in practice prior to 1815
Atkinson, R., LSA 1822, MRCS 1823
Attfield, G., MRCS 1850
Attwater, A. W., MRCS 1869
Atwood, W. A., MRCS 1860, LRCP Edin. 1869, LSA 1869
Austin, T. J., LSA 1842, MRCS 1843
Aylen, T. V., LSA 1871

Badger, S., MRCS, LSA 1844
Badley, J. P., MRCS, LSA 1847
Bage, W. F. J., LSA 1828, MRCS 1830
Bagg, G. W., MRCS 843, LSA 1845
Bailey, F. C., LSA 860, MRCS 1864
Bailey, J., LSA, MRCS 1833
Baillie, A., MRCS 1825
Baillie, M. T. B., LSA 1849, MRCS 1858
Bainbridge, W., MRCS, LSA 833
Baker, A., MD Montreal 1848
Baker, A., MRCS 837 FRCS 1852
Baker, H. F., MRCS LSA 1869
Baker, R., LSA 1820, MRCS 1821
Baker, R. L., LSA 1841, FRCS 1861
Baker, S. L., MRCS, LSA 1853
Baker, T. J., LSA, MRCS 1833
Baker, W., MRCS 1811
Baker, W. M., MRCS 1861, FRCS 1864
Baldock, A., LSA 1871, MB Aber. 1873
Balkwill, W. E., MRCS, LSA 1872
Ball, D., LSA 1824, MRCS 825, FRCS 1844
Baller, J. H., MRCS 829, MD St. And. 1861
Baly, G., MRCS 855
Bancks, T. LSA 834, FRCS 860
Banks, W. R., LSA 1853, MD St. And. 1855
Barbeau, A., MRCS 85
Barford, J. G., MRCS 1857, LRCP 1861
Barker, E., LSA 1823, FRCS 849
Barker, E., jun., MRCS 1856, LSA 1858
Barnes, C. H., LSA 1823, FRCS 852
Barnes, F. W., MRCS 1845
Barnett, H., LSA 1828, MRCS 1834
Barreau, F. H., MRCS 1859
Barrett, C. A., MRCS 854, LSA 1859
Barringer, T. S., MRCS 1839, LRCP Edin. 1860
Barringer, T. S., LSA 1869
Barrow, B., MRCS 836, FRCS 1862
Barsham, J. B., MRCS, LSA 836
Barter, C. S., LSA 1859, FRCS 1865, MB Lond. 1866
Barter, T., LSA 1825, MRCS 1826
Bartlam, E. G., MRCS 1839, LSA 1840
Bartleet, E., LSA 1824, FRCS 1852
Bartley, R. T. H., LSA 1840, MD St. And. 1845
Barwise, J., LSA 1840, MD St. And. 1862
Basley, C., MRCS, LSA 1840
Bass, A., MRCS 1852, MD St. And. 1857
Bateman, H., LSA 1828, FRCS 1855
Bateman, F., MRCS, LSA 1866, MB Lond. 1866
Batt, A., MRCS 1852, MD St. And. 1857
Batt, C. D., MRCS, LSA 1867, MB Lond. 1868
Batten, R. W., MRCS 1857, MD Lond. 1860
Batten, W., LSA 1832
Batty, B., MRCS 1815
Battye, W., MRCS 1864
Baxter, H. F., MRCS 1838
Bazeley, W., MRCS 1861, LSA 1862
Beach, H., LSA 1828, MRCS 1829
Beadnell, G. D., MRCS, LRCP Edin. 1872
Beale, J. S., MRCS 1846, LM 1853
Beale, T. M., LSA 1855, MRCS 1856
Beamish, J. M., MD Dub. 1868, MRCS 1871
Beard, C. T., MB Cantab. 1855, MRCP 1859
Beattie, H.M., MRCS 1861, MD St. And. 1862
Beckett, F.M., MRCS 1864
Beckinsale, J. E., MRCS 1833, LSA 1832, FRCS 1859
Bedwell, H., MRCS 1840, FRCS 1860
Bedwell, J. R., LSA 1881, MRCS 1882
Beecroft, J., MRCS, LSA 1847
Bell, G. W., MD. Edin. 1885
Bell, J., LSA 1825
Bell, W. J., MRCS 1868
Bendall, J., MRCS 1861, LSA 1862
Benfield, T. W., MRCS 1843, FRCS 1859
Bennett, J. H., FRSE, MD Edin. 1837
Bennett, F. G., MRCS, LSA 1864
Bennett, F., MRCS 1854
Bennett, G. J., MRCS 1859, LSA 1860
Bennett, J., MRCS, LSA 1839
Bennett, C. J., MRCS, LSA 1868
Berridge, E., MB Lond. 1867
Berry, S., LSA 1830, FRCS 1852
Best, F. A., MRCS 1863, LSA 1864
Best, H. D., MRCS, LSA 1855
Betham, J., MRCS 1855
Bett, R. L., MRCS 1859
Beveridge, J. E., MRCS 1836
Bewley, C., MRCS 1852, LSA 1856
Bickersteth, E. R., MRCS 1851, FRCS Edin. 1855
Bicknell, H., MRCS 1855
Bidden, R. C., MRCS 1834
Billett, J., in practice prior to 1815
Bird, H., LSA 1834, FRCS 1858, Ext. LRCP Lond. 1858
Bird, J., LSA 1821, MRCS 1825
Bird, J., MRCS, LSA 1834
Birt, A. W., MRCS 1862
Bishop, E., MD Erlang. 1856
Bishop, S. O., MRCS 1872
Black, P., MD Oxon. 1839, FRCP 1845
Blackman, F., MRCS 1854, LSA 1855
Blackman, F., MRCS 1856, LM 1858
Blackmore, H. P., MRCS 1857, MD St. And. 1857
Blackmore, S., LSA 1828, MD St. And. 1852
Blaker, E. S., MRCS 1859, LRCP Edin. 1860
Blaker, H. M., MRCS 1839, LSA 1840
Bland, G., LSA 1871, MRCS 1872, LRCP 1872
Bland, W. C., LSA 1871
Blasson, T., LSA 1823, FRCS 1853
Blenkinsop, H., LSA 1834, FRCS 1852
Bletchly, W. E., MRCS, LSA 1862
Blomfield, J., MD Aber. 1855, FRCS 1855
Bloxam, J. A., MRCS 1864, LSA 1866, FRCS 1871
Blue, W. A. S., MRCS 1868, LRCP Edin.
Blundell, J. W. F., MD Giessen 1851, LRCP Edin. 1859
Blundell, T. L., MRCS 1812, MD Glasg. 1826, FRCS 1852
Blunt, T., MRCS 1863, MD Edin. 1865
Blyth, E. J., MRCS, LSA 1850
Bodilly, J. D., MRCS 1857, LSA 1860

Bodington, G., LSA 1825, LRCP Edin. 1859
Bodman, J. B., LSA 1834
Bodman, F. H., MB Aberd. 1870
Bogg, J., LSA 1821, MRCS 1822
Bond, E. T., MRCS, LSA 1820
Bond, F., St. Q., MRCS, LSA 1858
Bond, H. J. H., MD Cantab. 1831, FRCP 1835
Bond, W. Y., LSA 1817
Boodle, R. H., MRCS, LSA 1843
Bore, G. H., LSA 1834, MRCS 1835
Borrett, J., MRCS 1827, MD Edin. 1830
Bossy, A. H., LSA 1851, MRCS 1859
Bostock, A. S., MRCS 1867, LSA 1868
Bostock, E. J., MRCS 1864, LSA 1865
Bostock, J. A., MRCS 1838
Bott, T., LSA 1829, MRCS 1830
Boughton, J. H., MRCS 1848
Boulton, D. F., MRCS, LSA 1866
Bowen, W., MRCS 1855
Bowes, R., MRCS, LSA 1831
Box, J., LSA 1826, MRCS 1827
Bradford, H., MRCS 1871
Bradford, R., MRCS 1868
Bradshaw, A. F., MRCS 1857
Brake, W. N., MRCS 1844
Bramley, L., LSA 1829, FRCS 1853
Brash, E. A., MRCS 1870
Bratt, W., MRCS, LSA 1849
Brendon, P., MRCS 1817, FRCS 1852
Brent, R., MRCS 1844, MD St. And. 1845
Brereton, C. Le Gay, MRCS 1851
Brewer, A., MRCS 1832, LSA 1834
Brewer, A. H., MRCS 1864, LRCP 1865
Brewer, C. C., MRCS 1864, LSA 1865
Brewer, H. M., MRCS 1864, LSA 1865, LRCP 1868
Brewer, J., LSA 1825, FRCS 1852
Brewer, T., MRCS, LSA 1863
Brewer, W. H., MRCS 1839
Brickwell, C. J., LSA 1832, MRCS 1833
Brickwell, H., MRCS 1839
Brickwell, J., LSA 1829, MRCS 1830
Brickwell, J., senr., MRCS, LSA 1829
Brickwell, J., MRCS, LSA 1856
Brickwell, E. A., MRCS, LSA 1868
Bridgeman, H E., MRCS 1871
Bridger, J., LSA 1857, MRCS, LM 1859
Brigstocke, R. W., MRCS, LSA 1859
Brine, J. E., MRCS 1844, LSA 1845
Bringloe, C., MRCS 1851, LSA 1852
Briscoe, J., MRCS 1842, LSA 1844
Broadbent, J. C., MRCS 1862, LKQCP Ire. 1864
Brodhurst, B. E., MRCS 1844, FRCS 1859
Brodribb, F. B., LSA 1872
Bromley, F., MRCS 1853, LSA 1854
Brook, C., MRCS, LSA 1861
Brooke, C., FRS, MA Cantab. 1827, FRCS 1844
Brookman, H., MRCS 1820, LRCP 1842
Broughton, F., MRCS 1841, FRCS 1857
Broughton, R. D., MRCS, LSA 1865
Brown, F. W., MRCS 1861
Brown, J. A., MRCS, LSA 1851
Brown, J M., MRCS 1851
Brown, J. W., MRCS, LSA 1861
Brown, R. G., MRCS, LSA 1854
Brown, N. B., LSA 1829, MRCS 1830
Browne, B., LSA 1832, LRCP Edin. 1859
Brownless, A. C., MRCS 1841
Bruce, J., MRCS 1863
Brunskill, W., LSA 1823
Brush, J. R., MD Heid. 1839, FRCS, MRCP 1860
Bryan, E., LSA 1863, MRCS 1864
Bryan, J. M., MRCS 1833, MD Aber. 1852
Buchanan, W., LSA 1814, MD Erlang. 1841
Buck, H. J., MRCS 1859, LRCP Edin. 1860
Buck, W. E., MB Cantab. 1872, MRCS 1872
Buckle, F., MD St. And. 1862, LRCP 1863
Bucknill, H. W., MRCS, LSA 1851
Budd, S. P., MRCS 1868, LSA 1869
Bullmore, F. C., LSA 1830, MRCS 1831
Bulmer, W., LSA 1828, MRCS 1829
Bunn, W. P., MRCS, LSA 1819
Burd, E., MB 1851, MRCS 1854 MD Cantab. 1859, MC 1863
Burgess, J., MRCS 1843, MD Aber. 1847
Burlton, T., LSA 1834, FRCS 1854
Burman, T. S., LSA 1836, MRCS 1838
Burn, W. B., MRCS 1865, MB Lond. 1871
Burroughs, J. B., LSA 1827, MRCS 1828
Burrows, G., FRS, MD Cantab. 1831, FRCP 1832
Burrows, W. A., LSA 1852, MRCS 1859
Burt, G. R., LSA 1835, LRCP Edin. 1860
Burt, S. J., MRCS 1830, LSA 1853
Burton, B. T., MRCS 1839, LSA 1840
Bury, J. W., MRCS 1858, MD Giessen 1865
Bush, E., LSA 1828, MRCS 1829
Bush, J., LSA 1867
Bushnan, J. S., LRCS 1830, MD Heid. 1836
Buswell, R., LSA 1858, MRCS 1854
Butcher, W. D., MRCS 1868
Butler, C., LSA 1868, MRCS 1871
Butler, W. H., MRCS 1829
Butler, T. M., MRCS, LSA 1860
Butlin, C. H., MRCS 1863
Butlin, H. T., MRCS 1867, LRCP 1868, FRCS 1871
Button, B., MRCS, LSA 1847

Caird, T. W., MRCS 1850, LSA 1851
Caird, W., LSA 1825, MRCS 1826
Callaway, E., MRCS 1858, LSA 1861
Callaway, Right Rev. Bishop, MRCS 1842, MD Aber. 1853
Callender, G. W., FRS, MRCS 1852, FRCS 1855
Cam, T., MRCS 1837, FRCS 1844
Camden, G. J., LSA 1825, MRCS 1826
Campion, H., MRCS 1856
Candy, J., LSA 1827, MD Aber. 1860
Cann, T., MRCS 1859, MD St. And. 1860
Cape, L., MD Edin. 1833, FRCP Lond. 1857
Carter, A. P., MRCS 1858, LSA 1859
Carter, D. D., LSA 1830, MRCS 1831
Carter, J., LSA 1836
Cary, W. H., LSA 1823, MRCS 1825
Cattell, T. W., MRCS, LSA 1831

Cattlin, W., jun., MRCS 1859, LDS 1860
Cautley, J., MRCS 1852, MD St. And. 1852
Cautley, W. C., MRCS, LSA 1849
Chadwick, C., MD Edin. 1837, FRCP Lond. 1866
Chadwick, P. C., MRCS, LSA 1835
Chamberlaine, J., LSA 1852, MRCS 1860
Chance, F., MB Camb. 1855, FRCP Lond. 1863
Chapman, E. G., MRCS 1848, LSA 1849
Chapman, G., LSA 1822, MRCS 1823
Chapman, H. T., MRCS 1828, FRCS 1843
Chapman, T., LSA 1829, MRCS 1840
Chappell, J. J., MRCS 1857, MD St. And. 1859
Charlton, E., MD Edin. 1836, MD Durham 1856
Chatto, J., MRCS, LSA 1832
Chavasse, T., LSA 1822, FRCS 1844
Cheese, J., MRCS 1860
Cheyne, G. E., MRCS 1871
Cholmeley, W., MD St. And. 1850, MRCP 1859
Chune, H. C., MRCS 1860
Church, W. J., LSA 1821, FRCS 1852
Church, W. S., MD Oxon. 1868, FRCP 1870
Churchill, S., MRCS 1848, MD Aber. 1849
Clapham, L., MRCS 1867
Clark, A., MRCS 1846, LSA 1850
Clark, J. E., LSA 1822, MRCS 1830
Clark, J. L., LSA 1835, MRCS 1854
Clark, R. O., MRCS, LSA 1848
Clarke, E. G., MRCS 1861, LSA 1867, LRCP Edin. 1867
Clarke, F. C. LSA 1872, MRCS 1873
Clarke, J. S., LSA 1833, MRCS 1838, MD Aberd. 1851
Clarke, W. M., MRCS, LSA 1850
Clifton, N. H., LSA 1841, FRCS 1856
Close, H. A., MRCS 1859, LRCP 1863
Clubbe, W. H., MRCS, LSA 1850
Coalbank, T., MRCS, LSA 1866
Coates, G., LSA 1827
Coates, G. V., LSA 1852, MRCS 1854
Coates, M. G. W., LSA 1836, MRCS 1838
Coates, W. M., LSA 1832, MRCS 1833
Coates, Rev. G. A. A., BA Oxon. MRCS 1864
Coathupe, C., MRCS 1862
Cocker, J., LSA 1827, MD Erlang. 1845, FRCP Edin. 1858
Cocker, W. H., MRCS 1861, LSA 1862
Cockey, E., MRCS, LSA 1842
Cole, T., MRCS 1866, MD Lond. 1868, MRCP 1872
Coleman, A., MRCS, LDS 1860, FRCS, 1868
Coleridge, E., MRCS 1826
Collins, C. H., LSA 1845, MRCS 1846
Collins, J. B., MRCS, LSA 1860
Collyns, G. N., MRCS, LSA 1855
Collyns, J. B., MRCS 1845, LSA 1846
Collyns, W., LSA 1844, MRCS 1845
Colquhoun, A. G., MRCS 1861
Colthurst, J., LSA 1831, FRCS 1844
Combe, H., MRCS 1808
Compton, T. A., MRCS 1864, LRCP 1865
Cooke, A., LSA 1832, MD Albany 1833
Cooke, A. S., LSA 1863, MRCS 1864
Cooke, E. H., MB Aberd. MRCS 1870
Cooke, W., MRCP 1866, MD St. And. 1822
Cooke, W., MRCS 1822, LM 1860
Cooke, W. H., MRCS 1855, MD Aber. 1860
Coombs, J., MRCS 1859, MD Erlang, 1864
Coombs, R. H., LSA 1866, MRCS 1867
Cooper, A., MRCS 1861, FRCS 1870
Cooper, Sir H., MRCS 1830, MD Lond. 1841
Cooper, F. S., LSA 1839, FRCS 1854
Cooper, W. W., MRCS 1838, FRCS 1846
Cope, R., MRCS 1857
Copeland, G. F., MRCS 1832
Corfe, G., LSA 1831, MD Aber. 1849
Cornish, S. H., MRCS 1854, LSA 1856
Cornwall, J., MRCS 1840, LSA 1841
Corrie, A. T., LSA 1871
Corsellis, N. C., LSA 1820, MRCS 1831
Costall, J., MRCS 1816
Costelloe, D., MRCS 1867
Costerton, H., MRCS 1852, LSA 1857
Cotterell, T. R., MRCS 1837, LSA 1845
Cotterell, T. S., MRCS 1838, LSA 1834
Cotton, T., MRCS 1860, MD St. And. 1861
Courtney, C. F. A., MRCS, LSA 1847
Coveney, J. H., MRCS, LSA 1843
Covey, C. E., MRCS 1863, LSA 1865
Covey, G., MRCS 1830
Covey, G., jun., MRCS 1864, LSA 1865
Covey, W. H., MRCS 1826, FRCS 1852
Cowen, H. L., MRCS 1839, FRCS 1859
Cowley, J. S., LSA 1871
Craven, R. M., MRCS 1846, LSA 1847
Cregeen, J. J., LSA 1851, MD St. And. 1853
Cresswell, J., MRCS, LSA 1841
Cripps, E., MRCS 1845, LSA 1846
Cripps, W. H., MRCS 1872
Croft, J. McG., MRCS 1846, MD Aber. 1856
Croft, R. C., MRCS 1853, LRCP Edin. 1859
Crompton, S., MRCS 1833, MD St. And. 1862
Crookes, J. F., MRCS 1833, FRCS 1843
Cropp, F. J., MRCS 1864, LRCP Edin. 1864
Crosby, T., MRCS 1831, LSA 1832
Cross, W., LSA 1837, FRCS 1852
Crosse, T. W., LSA 1847, FRCS 1860
Crowfoot, E. B., MRCS, LSA 1867, MB Lond. 1868
Crowfoot, W. E., LSA 1828, FRCS 1845
Crowfoot, W. J., MRCS 1813, MD Leyden 1830
Crowfoot, W. M., MRCS 1858, MB Lond. 1859
Cuddeford, T., MRCS, LSA 1865
Cuffe, R., LSA 1852, MRCS 1856
Culling, R., MRCS 1843, LSA 1860
Cumberbatch, A. E., MRCS 1870, MB Lond. 1871, FRCS 1872
Cumming, A. J., MRCS 1842
Cupiss, F. P., LSA 1850, MRCS 1851
Curgenven, J. B., MRCS, LSA 1852
Curling, T. B., FRS, FRCS 1843
Currie, J. L., MRCS 1863, LRCP Lond. 1864
Currie, J. T., LFPS Glas. 1838
Curtis, A., MRCS 1857, LSA 1860
Curtis, C. E., MRCS 1865, LSA 1869
Curtis, F., MRCS, LSA 1822
Curtis, W., LSA 1824, MRCS 1825

Cutcliffe, J. L., MRCS, LSA 1847

Daglish, G., LSA 1826, FRCS 1853
Dain, F. R., MRCS 1839, LSA 1843
Dalley, C. T., MRCS 1864, LSA 1865
Dakeyne, B. B., MRCS 1833, LSA 1834
Dalley, W. C., LSA 1823
Dalley, W. C., jun., MRCS, LSA 1855
Daly, O., FRCSI 1844, MD Dublin 1857
Daniel, J. S., LSA 1825, FRCS 1852
Daniel, T. P., MRCS 1858, LSA 1859
Daniel, W. J., MRCS, LSA 1856
Daniel, W., LSA 1861, MRCS 1862
Daniell, W., LSA 1838, MRCS 1840
Daniell, W. A., MRCS 1866
Daniell, W. C., MRCS 1856, LSA 1857
Dansey, G. F., MRCS 1861
Dashwood, W. H., MRCS 1858
Davenhill, R. S., LSA 1870, MRCS 1871
Davenport, C., MRCS 1852, LRCP Edin. 1860
Davey, A. G., MSCS 1860, MD St. And. 1862
Davey, J. G., LSA 1833, MD St. And. 1863
Davey, R. G., LSA 1830, MRCS 1858
Davey, R. S., LSA 1853, MRCS, LM 1855, MD St. And. 1862
Davies, F., LSA 1834, FRCS 1852, MD St. And. 1862
Davies, H., MRCS, LSA 1860, LRCP 1871
Davies, H. H., MRCS, LSA 1858
Davies, J., MD Aber. 1845
Davies, N. E., MRCS, LSA 1866
Davies, T., MRCS 1864
Davies, T. G. D., LSA 1852, MRCS 1853
Davies, T. H. W., MRCS 1864, LSA 1865
Davies, W., MRCS, LSA 1847
Davies, W. B., MRCS 1869, LRCP, LSA 1870
Davis, A. A., MRCS 1854, LRCP Edin. 1859
Davis, C. J., MB, CM Aberd. 1870
Davis, E., in practice prior to 1815
Davis, T., MRCS, LSA 1823
Davis, T., jun., MRCS 1855, MD Lond. 1861
Davy, J. W., LSA 1829
Dawson, J., LSA 1831, MRCS 1860
Dawson, R. H., MRCS, LSA 1861
Dawson, T., MRCS, LSA 1835
Dawson, W., LSA 1834, MRCS 1835
Dawson, W. H., MRCS, LSA 1860
Day, J. S., LSA 1841
Dayman, H., LSA 1832, FRCS 1854
Dayman, B., MRCS 1870, LRCP 1871
Deacon, H. P., MRCS 1870, LSA 1872
Deane, J., MRCS 1834, MD Glas. 1854
Deane, R., LSA 1828
Dearden, J., MRCS, LSA 1856
Dearden, J., MRCS, LSA 1858
De Crespigney, E. C., MRCS 1845
Dempsey, M. J., MRCS, LSA 1872, MB Aber. 1873
Denne, T., MRCS 1857
Denny, C. J., LM Dub., MRCS 1864
Denny, J., MRCS 1857, LRCP Edin. 1860
Dew, E., MD Edin. 1831, MRCP 1831
Dewes, E., MRCS 1843, MD Glas. 1844
Diamond, H. W., LSA 1829, MD Kiel 1834
Diamond, J. R., MD St. And. 1853
Dicken, J., FRCS 1843
Dickenson, T., LSA 1819
Dingley, W., MRCS, LSA 1850
Diver, T., LSA 1857, MD St. And. 1858
Dixon, C., LSA 1816, MRCS 1819
Dixon, J. F., LSA 1872
Dixon, T. G., MRCS 1841, MD St. And. 1853
Dobell, H. B., MRCS 1849, MD St. And. MRCP 1856
Dolton, W. B., MD Heild. MRCP 1859
Donald, J. R., LSA 1838, FRCS 1865
Doran, A. H. G., MRCS, LSA 1871
Douglas, R., LSA 1823, MRCS 1825
Dove, H., MRCS 1873, LSA 1872
Dover, F., MRCS 1829, FRCS 1843
Dowker, F. W., MRCS, LSA 1859
Dowling, T., LSA 1823, MRCS 1860
Drage, C., MRCS 1848, MD Aberd. 1857
Drake, A., LM Dub. 1848, MB Cantab. 1849
Druce, W., LSA 1857
Ducket, C. A., MRCS 1852, MD St. And. 1862
Duckworth, D., MD Edin. 1863, FRCP Lond. 1870
Dudley, J. G., MRCP 1859, MD Cantab. 1860
Dudley, W. L., MRCS 1846, MD St. And. FRCS 1860
Duff, W. H., MRCS, LSA 1838
Dunderdale, W., MRCS 1862, MD St. And. 1862
Dunn, A., MRCS 1862
Dunn, C. B. N., MRCS 1860
Dunn, G., MRCS, LSA 1848
Dunn, W. A., MRCS, LSA 1872
Dunne, F. W., MRCS 1855, LSA 1856

Eaton, F. J., MRCS 1855, LSA 1858
Eaton, J. C., MRCS, LSA 1866
Earle, E. S., MRCS 1856, FRCS 1860
Ebbage, LSA 1833, FRCS 1858
Eccles, A., MRCS 1843, FRCS 1858
Eccles, G. H., MRCS 1862, LRCP Edin. 1865
Eccles, J. H., MRCS, LSA 1839
Eccles, W. S., MRCS 1864, LSA 1865
Eck, V. F., MRCS 1864, LRCP 1868
Edgington, G. W., LSA 1818
Edis, W., MB Lond. 1861
Edis, A. W., MB Lond. 1863
Edkins, C., LSA 1832, MRCS 1833
Edlin, E. H., MRCS, LSA 1862
Edmunds, J., MRCS 1852, LSA 1852
Edwardes, C. L., MRCS 1856, LSA 1858
Edwardes, T., MRCS 1835, LSA 1837
Edwards, C. T., MRCS 1833
Edwards, H. N., MRCS 1864, LSA 1865
Edwards, D. P., MRCS 1828, FRCS 1860
Edwards, H. J., MRCS, LSA 1857
Edwards, W., MRCS, LSA 1861
Edwards, W. H., MRCS 1869, MB & CM Aberd. 1871
Edye, S., MRCS 1859, LSA 1860, FRCS 1870
Eland, J. L., MRCS 1836
Eldershaw, F., MRCS 1860
Elkington, T., MRCS 1854, LRCP Edin. 1860

Elliot, R. L., MRCS 1852, LRCP 1863
Elliott, J., LSA 1826, MRCS 1827
Elliott, G. MRCS 1862
Elliott, W., LRCS Edin. 1815, MD 1828
Elliott, E., MRCS 1839, MD Aberd. 1852
Elliott, G. H., MRCS, LSA 1863
Elliott J. R., MRCS 1862, LRQCPI 1863
Elliot t.P. MRCS 1834
Ellis, H. D., MRCS 1861, LSA 1863
Ellis, T. S., MRCS, LSA 1861
Ellis, W. H., MRCS, LSA 1866
Ellison, J., MRCS 1840, MD Lond. 1845
Else, J. O., MRCS LSA 1825
English, T., MRCS 1848, MD St. And. 1849
Etheridge, G. E. F., MRCS, LSA 1869
Evans, A., MRCS, LSA 1857
Evans, C. J., MRCS, LSA 1856
Evans, E. R., LRCS 1867, MRCP, LSA 1870
Evans, F. G., MRCS, LSA 1849
Evans, G., MRCS 1820
Evans, G. F., MD Cantab. 1839, FRCP 1859
Evans, G. H., MRCS 1868, FRCS 1872
Evans, H. N., MRCS 1860, MB Oxon. 1862
Evans, H. N., MD Glas. 1824, FRCS 1845
Evans, J., MRCS 1868
Evans, J. T., MRCS 1864, MD Aberd. 1865
Evans, L. D., MRCS 1872
Evans, L. E., MRCS 1867
Evans, N., MRCS 1859, MD St. And. 1859
Evans, O., MRCS 1827, MD Erlang. 1839
Evans, S. H., LSA, MRCS 1834
Evans, T., MRCS 1842, LSA 1844
Evans, T., MRCS 1837, LSA 1838
Evans, T., MRCS, LSA 1837
Evans, T. J., LSA 1823, MRCS 1825
Evans, T. M., MRCS, LSA 1861
Evans, W. H., MRCS 1869
Evans, W. L., MRCS 1862
Evers, C., MRCS 1861, MD St. And. 1862
Ewbank, F., MRCS, LSA 1867
Exell, E., MRCS 1866

Fairbank, T., MRCS 1864, MD Lond. 1865
Fairbank, W., LSA 1872, MRCS 1873
Fairless, H. W., MRCS 1864
Falwasser, F., MRCS 1858, FRCS 1866
Farmer, C., MRCS 1873
Farncombe, W., MRCS 1852
Farr, J., in practice prior to 1815
Farrar, C., LFPS Glas. 1854, MD Heidl. 1854
Farre, A., FRS, MB 1833, MD Cantab. FRCP 1843
Farre, F. J., MD Cantab. 1837, FRCP 1838
Farrington, A. C., MRCS 1865
Farrington, W. H., MRCS 1859, MD St. And. 1862
Farwell, J., MRCS, LSA 1829
Favell, W. F., MRCS, I SA 1853
Feltham, C., MRCS 1871
Fendick, T. R., LSA 1872
Fenn, E., MRCS, LSA 1861
Fennell, T., MRCS 1865, LSA 1866
Fenton, H., MRCS, LSA 1844
Ferguson, MB Oxon. 1872, MRCS 1873
Ferreday, T., LSA 1827, FRCS 1845
Ferris, G. T., MRCS 1857
Field, A. F., MRCS, LRCP Edin. LSA 1868
Finch, J. E. M., MRCS 1865, LSA 1866
Firth, G. W. W., LSA 1835, FRCS 1845
Fish, J. C., MRCP 1862, MD Cantab. 1870
Fisher, F., MRCS 1856
Fisher, F. A., MRCS 1869
Fitzgerald, C. E., MRCS 1856, MD St. And. 1862
Fletcher, M., LSA 1817, MRCS 1818
Foote, C. N., MRCS 1849, MD St. And. 1862
Foquett, H. R., MRCS, LSA 1852
Ford, B. B., MRCS 1860
Forder, J., MRCS 1818
Forshall, F. H., MRCS 1855, LRCP 1863
Forster, J. E., MRCS 1850
Fortescue, W. MRCS 1837, FRCS 1852
Foster, W. F., MRCS, LSA 1857
Fowke, F. G., LSA 1836
Fowler, O., MRCS 1835, LSA 1836
Fowler, O., MRCS 1863
Fowler, W., MRCS 1813
Fox, D., LSA 1821, FRCS 1843
Fox, G. F., MRCS 1843, LSA 1846
Fox, L. O., LSA 1833, MD St. And. 1859
France, W. H., MRCS 1860, LSA 1861
Francis, J., LSA 1834, MRCS 1835
Francis, M., MRCS 1846, LSA 1852
Franco, M. R. F., LSA 1832
Franey, E., MRCS, LSA 1858
Franklin, A. W., MRCS 1836, LSA 1837
Franklin, H., LRCP Edin. LSA 1867
Freeman, J., LSA 1839, MD Erlang. 1841
Freeman, R. T., MRCS 1864, LRCP Edin. 1865
Freeman, S., LSA 1825, MRCS 1827
Freeman, T. A., LSA 1836, MRCS 1859
Freer, A., MRCS 1850, LSA 1852
Freer, R. L., MRCS 1839, LSA 1840
Freer, T., LSA 1822, MRCS 1828
Freer, W. C., LSA 1840, MRCS 1841
Freston, R. S., LSA 1871
Fryer, T. W., MRCS 1854, LSA 1856
Fulcher, G. A., MRCS 1853, LSA 1853
Fullerton, J. C., LSA 1828
Furnell, M. C., MRCS 1850, FRCS 1870
Furley, E., LSA 1834, MRCS 1835, FRCS 1844, MD St. And. 1856
Furner, W., MRCS 1871, FRCS 1873
Furnivall, E. T., MRCS 1855

Gabb, A. W., MRCS 1843, LSA 1844
Gabb, D. H., MRCS 1845, LSA 1846
Gabb, F. E., MRCS, LSA 1862
Galton, J. C., MRCS 1866, MA Oxon.
Galton, R. C., MB Cantab. 1856, MRCP 1857
Gardiner, G. G., MRCS 1857, MD St. And. 1862
Gardner, J. T., LSA 1823, MRCS 1824
Gardner, S., MRCS LSA 1861
Garlike, S. W. R., MRCS 1863

Garlike, T. W., MRCS 1839, FRCS 1858
Garlick, W., MRCS 1864
Garrett, W. J., MB Lond. 1867
Garrington, W. H., LSA 1826, MRCS 1845
Gaskell, R. A., MRCS, LSA 1849
Gatehouse, C., MRCS 1821, LSA 1819
Gatty, W. H., MRCS, LSA 1851
Gaved, A., MRCS 1846
Gay, J., MRCS 1841, LSA 1842
Gay, J., MRCS 1834, FRCS 1843
Gaye, C., MRCS 1819, LSA 1818
Gaye, H. S., MRCS, LSA 1850
Gaye, W., LSA 1818
Gayleard, J., LSA 1833, MRCS 1834
Gee, S. J., MD Lond. 1865, FRCP 1870
George, H., LSA 1850, MD St. And. 1862
George, H., LSA 1834
George, R. F., MRCS, LSA 1820
Geoghegan, R. T., MRCS 1863, LM Dublin
Gerrans, J. G., LSA 1831, MRCS 1832
Gibb, Sir G. Duncan, Bart. MD Montreal 1846 MRCP 1859
Gibbon, S., MB Cantab. 1851, MRCP 1852
Gibbs, J. H., MRCS 1835, MD Aberdeen 1850
Gibbs, R., MRCS 1873
Gibson, G., MRCS, LSA 1835
Giffard, D. W., MRCS 1871
Gilbertson, J. B., MRCS 1849, MD Aber. 1859
Gilbertson, R., MRCS 1840, LSA 1841
Giles, J., MRCS, LSA 1868
Giles, W. F., MRCS 1858, LSA 1860
Gillott, E. D., LSA 1830, MRCS 1831
Gimson, W. G., MRCS 1860, MD St. And. 1862
Girdlestone, T. M., FRCS 1849
Girdlestone, W. T., MRCS 1856, LSA 1857
Gisborne, H. F., MRCS 1827
Glanville, J., MRCS, LM 1868
Glasier, G. W., MRCS 1859, LSA 1860
Glencross, F. J., MRCS, LSA 1868
Glover, W. R., MRCS 1855, LSA 1861
Glynn, T. R., MRCS 1863
Goddard, R. C., MRCS 1864
Godfray, A., MRCS LSA 1872
Godfray, C. Le V., MRCS, LSA LM 1860
Godfrey, R., MRCS 1813
Godrich, F., LSA 1818, MRCS 1819
Godson, MRCS, LM 1868
Godwin, A., MRCS 1855, MD St. And. 1862
Gooch, W. H., MRCS 1834, MD Edin. 1832, B Sc. Univ. of France 1830, MRCP Lond. 1859
Goodacre, F. B., MB 1853, MD Cantab. 1860
Goodall, J., MRCS 1866, LSA 1867
Goodall, R., MRCS 1857, LSA 1859
Goodeve, H. H., MRCS 1828, FRCP 1860
Goodfellow, S. J., MD Lond. 1840, FRCP 1849
Goodsall, D. H., MRCS 1868, FRCS 1872
Goodwin, C., LSA 1834, MRCS 1845
Goodwin, J. W., MB 1849, MD Cantab. 1854
Goodwin, J. H., LSA 1836
Gore, R. T., LSA 1820, FRCS 1843
Gorham, R. V., LSA 1836, MRCS 1837
Gosse, J., MRCS 1868
Gostling, H. W., MRCS 1867
Goude, H., MRCS 1870
Goude, J. F., LSA 1837, MRCS 1838
Gover, R. M., MRCS 1856, LSA 1859
Gowar, F. R., MSA 1814
Graham, A. R., MC Cantab. 1863, MB 1864
Graham, T. H., MRCS 1841, LSA 1849
Graham, T. J., MRCS 1814, MD Glas. FRCP Edin. 1861
Grammer, S. R., MRCS 1850, LSA 1857
Grant, F., MRCS, LSA 1869
Grant, K., MD Edin. 1826, MRCS 1829
Gray, Charles, MRCS 1858
Gray, C. F., MRCS, LSA 1870
Gray, E. B., MRCS 1856, MD Oxon. 1861
Gray, T. S., MRCS 1855, MD St. And. 1857
Gray, W., MRCS 1855
Grayling, J., MRCS 1832, MD Aberdeen 1851
Greatrex, A. B. W., LSA 1852, MRCS 1855
Greatrex, A. B., LSA 1862, MD St. And. 1862
Greaves, W. T., MRCS 1831
Green, C. J., MRCS 1869, LSA 1871
Green, F. K., MRCS 1864, LSA 1866
Green, T., MD Edin. 1824, FRCS 1843
Green, J. C., MRCS, LSA 1834
Green, T., LSA 1822, MRCS 1823
Greenhill, J. R., MRCS 1860, FRCS 1864
Greeves, J., LSA 1833
Gregory, B., MRCS, LSA 1859
Grellett, C. J., MRCS, LSA 1864
Griffin, F. C. G., MRCS, MB Oxon. 1864
Griffith, S. C., MRCS 1864, MD St. And. 1847
Griffith, J. W., MRCS 1841, MD St. And. 1842
Griffith, T. T., LSA 1816, FRCS 1844
Griffiths, G. H., LSA 1849, MRCS 1850, MD St. And. 1862
Griffiths, W. H., MRCS 1861, LSA 1862
Grigg, N. B., MRCS 1860
Grime, H. A., MRCS 1840, LRCP Edin. 1860
Gross, J. E., MRCS 1857
Groves, Edward, MRCS, LRCP 1868
Gulliver, G., FRS, FRCS 1843
Guppy, T. S., MRCS 1849, MD Aberd. 1859
Gutteridge, T., LSA 1826, MRCS 1827
Gwillin, W., LSA 1819, MRCS 1821 MD Erlang. 1831

Haffenden, T., MRCS 1807
Haig, J. B., MRCS 1842
Haig, P. de H., MRCS 1873
Hales, J., MRCS, LSA 1843
Hall, E., MRCS, LSA 1846
Hall, E. F., MRCS 1858, MD St. And. 1860
Hall, F. de H., MRCS, LSA 1868, MD Lond 1872, MRCP 1873
Hall, F. R., MRCS 1852, LSA 1853
Hall, H. J., MRCS 1858
Hall, S., MRCS, LSA 1863
Hall, T. W., LSA 1839
Hall, W., LSA 1820
Hall, W., LSA 1840, FRCS 1862
Hall, W., LSA 1834, MRCS 1835
Hallowes, F. B., MRCS 1858, LSA 1860
Hallowes, P. B., LSA 1822, FRCS 1843
Hammond, C. C., LSA 1818, MRCS 1819

Hammond, E. C., MRCS 1860, LSA 1863
Hammond, F., MRCS 1860
Hammond, J., LSA 1832, FRCS 1843
Hanbury, C., jun., MRCS 1849, LSA 1850
Hands, B., LSA 1819, FRCS 1853
Hanne, J. J. A., MRCS 1868
Hanslip, T., LSA 1853, MRCS 1859
Harbroe, E., LSA 1829, MRCS 1830
Harcourt, G., LSA 1821, FRCS 1841, MD St. And. 1846
Hardey, K., MRCS 1851
Harding, J. F., LSA 1835, FRCS 1852
Harding, W. W., MRCS 1855
Hardwicke, E. J., MRCS 1866
Hardwicke, H., MRCS 1840, LSA 1841
Harington, Rev. J. D., MRCS 1861, MB Oxon. 1862
Harle, E., MRCS 1869, LSA 1873
Harper, T., LSA 1837, MRCS 1838
Harries, C. A., LSA 1829, MRCS 1830
Harris, A., MRCS 1862
Harris, B., MRCS 1860, LSA 1861
Harris, F., MD Cantab. 1859, FRCP 1863
Harris, J. D., MRCS, LSA 1872
Harris, J. S., MRCS 1863, LKQCP Irel. 1864
Harris, R. D., MRCS 1847, LSA 1856
Harris, S., MRCS 1854, LSA 1855
Harris, T., MRCS 1815
Harris, W., LSA 1831, FRCS 1853
Harris, W. J., MRCS 1859, LSA 1860
Harrison, C., MRCS 1860, MD St. And. 1861
Harrison, C. H. R., MRCS 1834, FRCS 1843
Harrison, E. P. D., MRCS 1842, LSA 1843
Harrison, R., MRCS, LSA 1859
Harsant, M., MRCS, LSA 1837
Harston, A. D., LSA 1839, FRCS 1859
Hartill, J., LSA 1826, MRCS 1856
Hartill, J. T., MRCS, LRCP 1869
Hartill, W. H., LSA 1860, MRCS 1861
Hartley, J., MRCS, LSA 1852
Harvey, O., MRCS 1860
Harvey, R. S., MRCS 1848, MD St. And. 1861
Harvey, W., MRCS, LSA 1834
Harvey, W., MRCS 1864
Harvey, W., LSA 1872
Haslam, G. H., MRCS, LSA 1861
Hatfield, W. H., MRCS 1873
Hatherly, N. C., MRCS 1845, MD Aberd. 1857
Havers, J., MRCS 1837, FRCS 1849
Haviland, H. J., MB 1849, MD Cantab. 1854
Haward, F. R., MRCS, LSA 1865
Haward, W., MRCS 1854
Hawett, T., MRCS, LSA 1822
Hawkes, J., MRCS 1853, MD St. And. 1861
Hawkins, C. J., LSA 1836, FRCS 1854
Hawthorn, F., LSA 1836, MRCS 1842
Hawthorn, H. O., LSA 1831, MRCS 1842
Haycock, G., MRCS 1862, LSA 1864
Haydon, N. J., MRCS 1837, MD St. And. 1860
Hayes, H., MRCS, LSA 1842
Hayman, H., MRCS 1834, FRCS 1858
Haynes, A. E., MRCS, LSA 1869
Haynes, F. H., MRCS 1866, MB Lond. 1868, MD 1871
Hazard, J., MRCS 1852, LSA 1857
Head, R. T., MRCS, LSA 1859
Head, T., MRCS 1822, MD St. And. 1845
Head, W. C., MRCS 1871
Headley, W. B., MB & MC Cantab. 1864
Heane, W. C., MRCS LSA 1872
Heane, W. H., LSA 1872, MRCS 1873
Heaton, C. L., LSA 1837, MRCS 1838
Heaton, F. L., MRCS 1862, MB Oxon. 1863
Hedges, J. A., MRCS, LSA 1862
Heelas, M. L., MRCS 1866, LSA 1866
Hele, H. H., LSA 1825, MRCS 1826
Helm, G. F., MRCS 1859, FRCS 1863, MB Cantab.
Hembrough, J. W., LSA 1865, MRCS 1866
Henderson, H. G., MRCS 1863
Henderson, W., MD Aber. 1857, MRCS 1849
Hendley, T. H., MRCS, LRCP, LSA 1869
Henley, A. A., MRCS 1869
Henry, M., MRCS 1847, FRCS 1854
Hensley, P., MA, MD Cantab. 1870, FRCP 1871
Hepworth, G. A. H., MRCS, LSA 1847
Hester, J., MRCS 1853
Hester, J. T., LSA 1821, FRCS 1852
Hewer, E., MRCS 1866
Hewer, J. H., MRCS, LSA 1852
Hewlett, C., MRCS 1853
Hewlett, T., MRCS, LSA 1858
Hews, F., in practice prior to 1815
Hichens, J. S., MRCS, LSA 1851
Hickens, G. L., MRCS 1854
Hickman, T. H., MRCS 1868
Higgins, H., LM 1857, LRCP Edin. 1860
Hilder, H. H., LSA 1824, MRCS 1826
Hill, C. H. LSA 1871
Hill, R. S., MRCS, LSA 1840
Hill, T. J., MRCS 1858, LSA 1859
Hill, T., MRCS, LSA 1870
Hill, W., MRCS, LSA 1842
Hillier, J. T., MRCS, LSA 1850, LM 1853
Hilton, C. S., LSA 1862, MD St. And. 1862
Hind, H., MRCS
Hine, S. D., MRCS, LSA 1856
Hine, W. C., MRCS 1861, LSA 1862
Hingston, W., LSA 1824, MRCS 1825
Hingston, C. A., MB Lond. 1864
Hinton, J., MRCS 1848
Hitch, S., MRCS 1822, MRCP 1859
Hitchcock, C., MRCS 1834, LRCP Edin. 1860
Hitchcock, T., MRCS 1831, MRCP 1859
Hitchins, C. V., LSA 1854, MRCS 1855
Hoare, W., LSA 1826, MRCS 1827
Hoare, W., MRCS 1858
Hodges, F. S., LSA 1845, MRCS 1847
Hodgson, W., MRCS 1855, MD St. And. 1862
Hodson, C. F., MRCS 1837, LSA 1838
Hogg, A. J., MRCS, LRCP Edin. 1870
Holbrow, A., LSA 1818, FRCS 1862
Hole, J., LSA 1826, MRCS 1828
Hole, J. C., LSA 1822
Holden, G., MRCS 1856, MD St. And. 1859

Holden, L., MRCS 1838, FRCS 1844
Holland, N., LSA 1869, MRCS 1870
Holland, Sir Henry, Bart., FRS. MD Edin. 1811, DCL Oxon, LLD Cantab.
Hollis, W. A., MB Cantab. 1867, MRCP 1867
Hollis, W. P., MRCS 1861, LM 1863, LRCP Edin. 1872
Holmes, A., MRCS, LRCSJ 1858
Holmes, C., LSA 1838, FRCS 1861
Holthouse, C., LSA 1832, FRCS 1843
Holttum, C., LSA 1840, FRCS 1855
Hooper, C., MRCS 1859
Hooper, J. D., LSA 1830
Hooper, J. T., MRCS 1845, LSA 1858
Hooper, L. G., MRCS 1852, LSA 1854
Hope, H., MRCS, LSA 1864
Hopgood, P. D., MRCS, LRCP 1867
Hopkins, H. C., MRCS 1867
Hore, W., LSA 1826, MRCS 1858
Horne, T. B., MRCS 1845, LSA 1846
Horner, A. C., MRCS 1872
Horsfall, J., MRCS 1866, FRCS 1869
Hosking, R., MRCS, LSA 1852
Hoskins, E. J., MRCS 1858, MD St. And. 1860
Hoskins, H. R., LSA 1848, LRCP 1860
Houghton, J. H., MRCS, LSA 1838
Houseman, —, MRCS, LSA 1863
Howell, H. S., MRCS 1861, MD St. And. 1862, FRCS 1872
Huggins, S. J., MRCS, LSA 1870
Hue, J. W., FRCP 1856, MD Cantab.
Hughes, D. W., MRCS 1861, LSA 1862
Hughes, J. B., MRCS 1866, LSA
Hughes, H. H., MRCS, LSA 1831
Hughes, H. R., MRCS 1839
Hughes, J., LSA 1840, FRCS 1858
Hughes, J. E., LSA 1861, MRCS 1862
Hughes, T. H., LSA 1858, MRCS 1858
Hughes, W. E., MRCS 1847, LSA 1857
Hughes, W. F., MRCS 1863
Hulme, E. C., MRCS 1844, FRCS 1849
Hulme, J. D., MRCS 1849, MD St. And. 1862
Humphry, C. H., MRCS, LSA 1862
Humphry, F. A., LSA 1853, FRCS 1856
Humphry, G. M., FRS, FRCS 1844, MD Cantab. 1859
Hunt, E., LSA 1830
Hunt, H., MRCS 1840, FRCP
Hunt, T. O., MRCS 1856
Hunt, W. C., LSA 1844, MRCS 1845
Hunter, R. H., MRCS 1861, LSA 1862
Hurlock, Rev. J., MD 1816
Husband, C., MRCS 1845, LSA 1846
Husband, H. A., MRCS 1866, MB Edin. 1867
Hussey, E. L., FRCS 1849, MRCP Edin. 1859
Hutchins, W., LSA 1825, MRCS 1826
Hutchinson, F., LSA 1828, FRCS 1852
Hutchinson, J., MRCS 1850, FRCS 1862
Hutchinson, J. R., MRCS 1845, LSA 1855
Hutchinson, T., MRCS 1849, LRCP Edin. 1860
Hutchinson, W. B., MRCS 1829, FRCS 1852

Iles, A., MD St. And. 1861
Iliffe, W., MRCS 1866, LSA 1867
Ilott, E., LSA 1848, FRCS 1863
Ilott, J. W., LSA 1836, MRCS 1837
Ingman, J., MRCS 1847
Iredell, C. L. M., MRCS, LSA 1871
Ireland, J., LSA 1853
Irving, C., MRCS 1870

Jackman, T. S. H., MRCS 1848, LRCP 1867
Jackson, A., MRCS 1866
Jackson, F. E., MRCS, LSA 1872, MB Aber. 1873
Jackson, H., MRCS 1869
Jackson, H. E., MRCS 1870
Jackson, H. W., MRCS 1855, LSA 1857
Jackson, J. H., MRCS 1856, MD St. And. 1860
Jackson, J. T., LSA 1841, MRCS 1842
Jackson, M., MRCS, LSA 1866
Jackson, P., MRCS, LSA 1844
Jackson, R., MRCS 1832
Jackson, W., MRCS 1814, FRCS 1853
Jacob, E. L., MRCS, LSA 1855
Jacques, J. T., MRCS, LSA 1865
Jelland, R., MRCS 1854
James, E., MRCS, LSA 1853
James, E., MD Edin. 1835
James, E. M., MRCS 1860
James, H. H., LSA 1841, FRCS 1856
James, J., MRCS 1834, LSA 1862
James, J., MRCS 1862
James, J. D., MRCS, LSA 1857
James, T., MRCS, LSA 1836
James, T., MRCS, LSA 1846
Jarvis, N. H., MRCS 1867, LSA 1868
Jay, H. M., LRCP Edin., LM Edin., MRCS, LSA 1868
Jeaffreson, C., MRCS 1863, LSA 1867
Jeaffreson, H., MRCS 1860, MD Lond. 1865
Jeaffreson, J., MRCS 1862
Jeaffreson, J. B., MRCS, LSA 1858
Jeaffreson, W., MRCS 1820
Jebell, E. J., MRCS 1841
Jeeves, W. Y., MRCS 1853
Jefferys, W. E., LSA 1848, MRCS 1849
Jenneret, H., LSA 1824, MD Edin. 1825
Jenkins, H. J., MRCS, LSA 1829
Jenkyns, C., MRCS 1861, LSA 1862
Jepson, E. C., MRCS 1835, FRCS 1855
Jerrard, J. C., MRCS 1818, LSA 1819
Jeston, A. F. W., MRCS, LSA 1824
Johnson, E. R., MRCS 1867
Johnson, J. G., LSA 1820, FRCS 1843
Johnson, T. R. R., MRCS 1851, LSA 1854
Johnston, J., MRCS, LSA 1823
Johnstone, J., MD Cantab. 1832, FRCP 1834
Jones, D., MRCS 1851, LRCP Edin. 1860
Jones, G. T., MRCS 1842, LRCP Edin. 1859
Jones, H., jun., MRCS 1853, LSA 1855
Jones, H. D., MRCS 1835, FRCS 1852
Jones, H. P., MRCS, LSA 1834
Jones, J., MRCS 1834, LSA 1838
Jones, J., MRCS, LSA 1862
Jones, M., MRCS 1855
Jones, M., MRCS 1856
Jones, M., MRCS 1861, LRCP 1861

Jones, O., MRCS 1862
Jones, O. T., MRCS 1872
Jones, R. A., MRCS 1864, LSA 1865
Jones, R. O., MRCS, LSA 1861
Jones, T., MRCS 1841
Jones, T., MRCS, LSA 1860
Jones, T. E., MRCS, LSA 1856
Jones, W., MRCS 1841, MD St. And.
Jones, W., MRCS 1863
Jotham, G., LSA 1826, MRCS 1827
Jowers, F. W., MRCS 1854, LSA
Jukes, A., MRCS, LSA 1869
Julian, J. P., MRCS 1852

Karkeek, P. Q., MRCS, LSA 1865
Kay, J., LSA 1840, MRCS 1848
Keal, W., MRCS, LSA 1854
Kelly, J., MRCS, LSA 1833
Kemp, W. G., MRCS 1867, LRCP 1868
Kesteven, W. B., LSA 1837, FRCS 1854
Kesteven, W. H., MRCS 1869
Kiernan, F., FRS, MRCS 1825, FRCS 1843
Kiernander, W., MRCS 1864
King, E. P., MRCS 1858, LSA 1859
King, F., MRCS 1848
King, R., MRCS 1844
King, W. M., MRCS 1869
Kingdon, J. A., MRCS 1849, FRCS 1861
Kinsey, R. H., MRCS 1864, LSA 1866
Kipling, W., LSA 1827
Kirkman, J. M., LRCS Edin. 1833, MRCS 1835
Kirkman, J. M., MRCS 1867
Kitching, A., MRCS 1850, MD Aber. 1860
Kite, W. J., MRCS, LSA 1846
Knapp, F. W., MRCS 1864, LSA 1866
Knight, G. T., LSA 1847, MRCS 1848
Knight, H. J., MRCS, LSA 1858
Knott, T. B., MRCS, LSA 1848
Kough, O'B., LSA 1860, MRCS 1861

La Farque, P. A., MRCS 1847, LSA 1854
Lafargue, P., MRCS 1868
Lamb, B. W., MRCS, LSA 1866
Lammiman, C., MRCS 1871, LRCP 1872
Lancaster, W. J., MRCS, LSA 1860
Lanchester, H. T., FRCS, MRCS 1861, MD Lond. 1864
Lanchester, T. W., LSA 1826, MD Erlang. 1839
Langdon, C. G., LSA 1866
Langdon, G. C., MRCS 1868
Langdon, H. W., MRCS 1854, LSA 1855
Langdon, T. C., LSA 1858, FRCS 1863
Langford, E. C., LSA 1855, MRCS 1856
Langridge, G. T., MRCS 1871
Langshaw, J. P., LSA 1837, FRCS 1854
Langton, J., MRCS 1861, FRCS 1865
Langworthy, F. W., MRCS 1868
Langworthy, G. V., MRCS, LSA 1864
Langworthy, J. M. B., LSA 1852, MRCS 1854
Langworthy, R., MRCS, LSA 1836
Langworthy, S., MRCS 1851, LSA 1852
Langworthy, W. F., jun., MRCS, LSA 1861
Lansdowne, J. G., LSA 1827, MRCS 1828
Larty, R. J., MRCS 1837, LSA 1838
Lascelles, R. M., MRCS, LSA 1836
Latham, C., MRCS, LSA 1839
Latham, J., MRCS 1823, LRCP Edin. 1860
Latham, P. M., MD Oxon. 1816, FRCP 1818
Latham, P. W., MRCP 1861, MD Cantab. 1864
Latham, R. G., MD Cantab. FRS 1850
Latham, W. H., MRCS, LSA 1870
Latten, R., LSA 1836, MRCS 1837
Lavery, T., LSA 1884, MRCS 1835
Lawrance, F., MRCS 1857, LSA 1859
Lawrence, G. R., MRCS 1862, LSA 1864
Lawrence, H. C., MRCS 1864, LRCP 1865
Lawrence, Sir J. Trevor, Bart., MRCS 1853
Lawrence, L. A., LSA 1839, MRCS 1843
Lawrence, W. F., MRCS 1841, LSA 1842
Lawton, R., LSA 1827
Laycock, W., MRCS 1837
Leach, H., MRCS, LSA 1858, MRCP 1873
Leamon, E. F., LSA 1818, MRCS 1819
Leather, P. W., MRCS, LSA 1839
Ledgard, J. A., MRCS, LSA 1831
Ledsam, J. J., MRCS 1820, MD St. And. 1851
Lee, H. B., MRCS 1833
Lee, H., LSA 1830
Lee, J., LSA 1825
Lee, J., jun., MRCS 1858, LSA 1859
Lee, N. B. C., MRCS 1857
Lee, R., LSA 1825, MRCS 1843
Lee, T. W., MRCS, LSA 1868
Leech, E., MRCS, LSA 1822
Leech, H. P., MRCS, 1818, LSA 1849
Leeds, T., MRCS. LSA 1861
Leffwich, R. W., MB Aber. 1873
Legg, J. W., MD Lond. 1868, MRCP 1869
Leggatt, R. S., MRCS 1841, LSA 1842
Leigh, P., LSA 1834, MRCS 1835
Lemon, H. M., LSA 1860, MRCS 1861, MD St. And. 1861
Leppington, H. M., LSA 1830, MRCS 1831
Lestourgeon, C., LSA 1831, FRCS 1843, MA Cantab.
Leverton, E. J., MRCS, LSA 1866
Leverton, H. S., MRCS 1851, LRCP Edin. 1860
Levy, J. L., MRCS 1866, LSA 1868
Lewis, D. W., MRCS 1861
Lewis, R. B., MB Lond. 1850, MRCS 1852
Lewis, W. T., MRCS 1853, LSA 1863
Lindop, J. C., MRCS 1862, LSA 1863
Lindop, W., LSA 1829, FRCS 1856
Lindgard, A. R., MRCS 1839
Lincker, E. H., MRCS 1858, LSA 1859
Linnecar, E. H., LSA 1824, MRCS 1843
Little, J. C., MRCS 1839, LSA 1840
Little, T. S., MRCS 1842, LSA 1843
Littleton, P. R., MRCS 1868
Livett, H. W., MRCS 1837, MD Pisa 1837, LRCP Edin. 1859
Llewellyn, E., MRCS 1859
Lloyd, D., MRCS, LSA 1838
Lloyd, D., MRCS, LSA 1859
Lloyd, E. J., MB Aber. 1873
Lloyd, J. A., MRCS 1829, MD Aberdeen 1854

Lobb, H., MRCS, LSA 1850
Lock, J. G., MA Cantab. MRCS 1867, LRCP Edin., LSA and LM 1868
Locock, Sir C., Bart., MD Edin. 1821, FRCP 1836
Lombe, T. R., MRCS 1843, MD Aberdeen 1856
Long, E., LSA 1823, MRCS 1824
Long, T., LSA 1833
Longhurst, A. E. T., MD St. And. 1862, MRCS 1863
Lorimer, J. A., MRCS, LRCP 1868
Lovekin, L. F., LSA 1833, MRCS 1835
Loveless, W. K., LSA 1830, MRCS 1831
Lovell, F. H., MRCS 1865
Lowdell, C., MRCS 1847
Lowe, G., LSA 1837, FRCS 1863
Lowe, W. G., MRCS, LRCP 1870
Lowne, B. T., MRCS, LSA 1814
Lowne, B. T., jun., MRCS 1861, FRCS 1873
Ludlow, E., MRCS 1862, MB London 1864
Ludlow, T., MD St. And. 1863
Luke, H., MRCS 1858
Lush, W. G. V., MRCS 1864, MD Lond. 1866

Maberley, G. F., MRCS 1866
Macan, J. J., MRCS 1870
Macaulay, F. E., MRCS 1861, LSA 1862
McCandlish, W., MRCS 1864
McCheane, W., LSA 1844, FRCS 1868
Macilwain, G., MRCS 1818, FRCS 1843
McKechnie, A., MD Glas. 1829, MRCP 1860
McKenzie, J., MRCS 1867
Mackenzie, J. T., MRCS 1858, MB Cantab. 1861
Mackinder, D., MRCS 1847, MD St. And. 1853
Mackintosh, H.R.D., MRCS 1863, MD Erlang. 1864
M'Clean, E. H., MRCS 1867, LSA 1868
McGregor, A., MRCS 1867, LRCP Edin. 1868
McLeod, A. W., LSA 1827, MRCS 1828
M'Nab, D. R., LSA 1841, MRCS 1842
McNicoll, D. H., LSA 1836, MD Glasgow 1842
Madeley, G. S., MRCS 1867
Maling, E. H., LSA 1822, MRCS 1832
Mallet, S. E., MRCS 1861
Manby, A., LSA 1830, MRCS 1831
Manifold, W. H., MRCS 1849
Mann, R. M., MRCS, LSA 1845
Manning, J., LSA 1856, MRCS 1857
Marchant, R., MRCS 1815, LSA 1816
Margetson, P., MRCS, LSA 1835
Marrack, W., MRCS, LSA 1854
Marriott, J., MRCS 1850, LSA 1852
Marsh, A. J., LSA 1839, MRCS 1841
Marsh, F. H., MRCS 1861, FRCS 1866
Marsh, J., MRCS 1850, LSA 1856
Marshall, T. H., MRCS 1846, LSA 1849
Marson, J. T., LSA 1829, FRCS 1852
Martin, H. E., MRCS 1859
Martin, H. V., MRCS 1834, FRCS 1850
Martin, P., LSA 1863, MRCS 1864
Martin, Sir R., CB, FRS, FRCS 1843
Martin, R., MRCS 1813, FRCS 1844
Martin, R., MB 1851, FRCP 1859, MD 1859 Cantab.
Martyn, T. D., MRCS, LSA 1832
Maskelyne, H., LSA 1825, MRCS 1829
Mason, J. B., MRCS 1858, LRCP 1860
Mason, R., MRCS 1848, LSA 1856
Master, A., LSA 1837, MRCS 1838
Mathew, J. E., MRCS 1841, FRCS 1858
Mathias, J. E., MRCS 1838
Matterson, W., MRCS 1837, MD St. And. 1862
Matthews, J., LSA 1838, MD St. And. 1853
Maturin, H., MRCS 1864, LSA 1865
Maughan, J. B., MRCS 1840
Maxwell, E. C., MRCS 1866, LSA 1867.
May, A. S., LSA, MRCS 1864
May, E. C., LSA 1820, FRCS 1853
May, E. H., LSA 1854, FRCS 1856
May, J. H. S., MRCS, LSA 1859
May, J., LSA 1830, FRCS 1860
Mayne, R. F., MRCS 1854, MD Jena 1858
Mayo, C., MRCS 1861, MB Oxon 1865, MD Dubl. 1866, MRCP 1869
Mayo, C., MRCS 1811, FRCS 1844
Mead, G. B., MRCS 1854, MD Giessen 1859, FRCP 1861
Meade, H., MRCS, LSA 1860
Meade, R.H., LSA 1835, FRCS 1845
Melhado, A. C. B., MRCS, LSA 1866
Meller, C. M., MRCS 1849, MD St. And. 1862
Menzies, J. J., MRCS 1859, LRCP Edin. 1860
Mercer, A. W., MRCS 1858, LSA 1859
Mercer, E., MRCS, LSA 1851
Merry, R. R., MRCS 1860, LRCP 1864
Metcalfe, E., MRCS 1841, FRCS 1859
Michell, G. A., MRCS, LSA 1835
Michell, S. V. P., LSA 1839, FRCS 1861
Mickle, D. K., LSA 1851, MRCS 1860
Middlemore, LSA 1825, FRCS 1843
Miles, C., MRCS, LSA 1848
Miles, H. C., MRCS 1854, LRCP Edin. 1859
Miles, J., LSA 1816, MD Erlang. 1837
Miller, C. M., MD St. And. 1862
Miller, J. A., MRCS 1872
Millington, LSA 1828
Milner, E., MRCS 1873
Milsome, J. R., MRCS 1862, MD St. And. 1862
Mitchell, S., LSA 1820, MRCS 1821
Mitchell, T. C., MRCS 1859, LSA 1860
Mitchinson, C. C., MRCS 1859, LSA 1860
Mitchinson, G., MRCS 1851, LRQCP Ireland 1859
Mitton, M. J., MRCS 1862
Moon, R., MRCS 1863
Monro, H., FRCP 1848, MD Oxon. 1863
Montgomery, J. B., MD Glas. 1851, MRCS 1852
Moore, D. S., LSA 1841, MRCS 1842
Moore, E., MRCS, LSA 1851
Moore, G. H., MRCS 1829, MD St. And. 1841
Moore, J., MRCS 1810
Moore, J., MRCS, LSA 1827
Moore, J., MRCS 1867
Moore, N., MB Cantab. 1872, MRCP 1873
Moore, R. B., MRCS 1866, LSA, LRCP 1868

Moore, T., MRCS 1859, LRCP 1865, FRCS 1867
Moore, W., MRCS, LSA 1836
Moore, W. H., MRCS 1866
Moorhouse, J. W., MRCS 1852, LRCP Edin. 1864
Morris, D. E., MRCS 1868
Morris, E., MRCS 1854, LSA 1856
Morris, R., MRCS 1857, LSA 1858
Morrish, T. F., MRCS, LSA 1851
Morriss, E. J., MRCS 1873
Morse, A. C., MRCS 1844, LSA 1845
Mortimer, R., MRCS 1835, LRCP Edin. 1859
Moses, F. H., MRCS 1867
Moss, W. B., MRCS 1854
Mousley, G., LSA 1832, MRCS 1833
Moxon, J., MRCS 1857, LSA 1863
Mudge, B., MRCS 1863
Mudge, H., LSA 1828, MRCS 1829
Mullings, S. E., LSA 1854, LRCP E. 1860
Murrell, C. F. F., MRCS LSA 1872
Murrell, W., MRCS 1861
Muschamp, W. H., MRCS 1854
Myers, H. R., LM, LFPS Glasg. 1859

Nash, W. L., MRCS 1863
Nathan, H. F., MRCS 1860
Neathy, T., MRCS 1861, MD St. And. 1861
Needham, F., MRCS 1858, MD St. And. 1866
Ness, J., LSA 1826, FRCS 1860
Nettle, W., MRCS 1870
New, H. S., MRCS 1835, LSA 1840
Newberry, W. J., LSA 1871
Newbold, E., MRCS 1835, LSA 1838
Newman, A., MRCS 1857, MB Oxon. 1859
Newman, G., MRCS 1835, LRCP Edin. 1859
Newman, H., MRCS 1841, LSA 1842
Newman, W., MRCS 1854, FRCS 1867, MD Lond. 1859
Newton, C. J., MRCS, LSA 1870
Newton, E., LSA 1838, FRCS 1846
Newton, L., MRCS, LSA 1867
Nicholls, H. A. A., MB Aber. 1873
Nicholls, L., MRCS 1856, LSA 1859
Nicholson, J., LSA 1839, FRCS 1857
Nicholson, W. H., MRCS 1858
Noad, G. W., MRCS 1862, MD St. And. 1862
Norris, T. G., MRCS, LSA 1832
Norris, W., LSA 1816, MD St. And. 1823
North, W. D., MRCS 1862
Norton, H., MRCS 1869
Norton, W. A., MRCS 1862, MD St. And. 1862
Nunn, J. R., MRCS, LSA 1859
Nunn, P. W. G., MRCS 1871

Oates, J. P., LSA 1829, MRCS 1842
Odell, T., MRCS, LSA 1851
Odling, T. F., MRCS 1872
Odling, W., FRS, MB Lond. 1851, FRCS 1859
Oldfield, H., MRCS 1858
Oldham, R., MRCS 1841, FRCS 1859
Oldman, J., MRCS, LSA 1858
Oliver, R., MRCS, LSA 1861
Oliver, W. H., MRCS, LSA 1836
Orford, W. C., MRCS 1847, LSA 1848
Orme, C., MRCS 1867, LSA 1869
Orton, G. H., MRCS 1863, FRCS 1867, MB Lond. 1867
Orton, W., LSA 1832, MRCS 1833
Osborn, H., MRCS 1851, MRCP 1859
Osmond, T., MRCS, LSA 1863
Overton, J., LSA 1821, MRCS 1822
Owen, A. P., MRCS, LSA 1835
Owen, E. R., LSA 1834, FRCS 1857
Owen, Professor Richard, FRS, MRCS 1826 FRCS 1843
Owen, R. J., MRCS, LSA 1861
Owen, A. J., MRCS 1872
Paget, G. E., MD Cantab. 1838, FRCP 1839
Paget, Sir J., Bart., DCL, FRS, MRCS 1836, FRCS 1843
Paine, W., MRCS, LSA 1860
Palmer, C., LSA, MRCS 1866
Palmer, C., MRCS 1846, MD St. And. 1854
Palmer, E., MRCS 1839, MD St. And. 1845
Parke, J. T., MRCS 1848, LSA 1850
Parker, D., MRCS 1860
Parker, R., MRCS, LSA 1859
Parker, S., LSA 1840, MRCS 1841
Parks, J., MRCS 1834
Parnell, G. C., MRCS 1871, LSA 1873
Parry, P., in practice prior to 1815
Parry, R., LSA 1829, MD Aberd. 1848
Parsley, W. H., LSA 1831, MRCS 1862
Parsons, E. K., MRCS 1843, LSA 1844
Parsons, F. H., MD, CM Glas. 1861
Parsons, J. St. J. G., FRCS 1858, LRCP 1859
Parsons, W. A., LSA 1826, MRCS 1828
Partridge, J. H., MRCS 1840, LSA 1841
Patten, C. A., MRCS 1861, LSA 1865
Pattinson, H. B., MRCS, LSA 1866
Paull, J., MRCS 1866, LSA 1867
Paxton, F. V., MB Oxon. 1864, MRCS 1866
Payne, G. S., LSA 1830, MRCS 1831
Payne, G. S., MRCS 1871, LSA 1872
Payne, S., MRCS, LSA 1849
Peacey, W., MRCS 1872
Pearce, F. D., LSA 1832, MRCS 1833
Pearce, F. D., jun., LSA 1862, MRCS 1863
Pearce, T., LSA 1825, MRCS 1826
Pearless, C. D., MRCS, LSA 1864
Pearse, W., LSA 1840, MRCS 1860
Pearse, W. D., MRCS, LSA 1836
Peatfield, T., MRCS 1863
Peel, R., MRCS 1861
Peirce, J. E., MRCS, LSA 1868
Peirce, R. K., MRCS 1844, LM 1855
Pemberton, O., MRCS, LSA 1847
Penfold, H., MRCS, LSA 1850
Penkivil, J. H., LSA 1871
Pennington, A., MRCS, LSA 1861
Pennington, F., MRCS 1854
Pennington, T., LSA 1828, MRCS 1829
Penny, G. J., MRCS 1872, LSA 1873
Pepler, W. B., MRCS, LSA 1853
Perkin, R. C., MRCS 1850, LSA 1851

Perrin, W. J., LSA 1825, MRCS 1856
Perrot, H., MRCS 1856
Perry, C. H., LSA 1835, MRCS 1843
Perry, M., MRCS 1866, LSA 1867
Pettifer, E. H., LSA 1861, MRCS 1862
Philbrick, S. A., MRCS, LSA 1830
Philbrick, T., LSA 1833, MD Giessen, MRCS 1844, LRCP Edin. 1860
Phillips, G., FRCS 1855
Phillips, G. A., LSA 1870, MRCS 1871
Phillips, G. M., MRCS, LSA 1842
Phillips, J., LSA 1833, MRCS 1834
Phillips, J. W., LSA 1852, MRCS 1856
Phillips, W. E., MRCS 1867
Philpott, H. G., MRCS 1853, LSA 1854
Pickburn, T. J., LSA 1868
Picken, S., MRCS 1855, LSA 1858
Pickett, J., MRCS, LSA 1858
Pickford, J., MRCS 1828, MD Aberdeen 1852
Pierce, J. E., MRCS 1868
Pierpoint, LSA 1855, MD St. And. 1862
Pilkington, T., MRCS, LSA 1863
Pilkington, W. H., MRCS 1845, LRCP 1861
Pinchard, B., MRCS 1843, MD Aberdeen 1859
Pinder, J. B., LSA 1855, MRCS 1856
Piper, C. C., MRCS 1848, LSA 1854
Pitt, E. G., MRCS, LSA 1849, MD Aber. 1855
Place, J. L., MRCS, LSA 1866
Pletts, J. M., MRCS 1873
Pocklington, E., MRCS 1860, LSA 1861
Poignand, M., MRCS 1872
Pollard, J., MRCS, LSA 1854
Pollard, W., MRCS 1843, LSA 1844
Pollock, R. J., LSA 1826, FRCS 1852
Pooley, C., MRCS 1842, FRCS 1864
Porter, J. H., LSA 1827, MD Erlang. MRCP 1859
Potter, F. D., LSA 1832, MRCS 1835
Potter, T. H., LSA 1828, MRCS 1829
Pottle, E. G., MRCS 1867, LSA 1868, LM 1869
Potts, W. J., MRCS 1861
Powdrell, J., MRCS, LSA 1864
Powell, A., MRCS 1832
Powell, F., MRCS 1853, MB Lond. 1855
Powell, H., LSA 1831, MRCS 1832
Powell, H., MRCS 1839, LSA 1840
Powell, J. J., LSA 1830, MRCS 1834
Powell, J. T., MRCS 1854, MD St. And. 1862, LRCP 1870
Powell, L., MRCS 1864
Power, F. D., MRCS 1866
Power, H., MRCS 1851, FRCS 1854, MB Lond. 1855
Power, W. H., MRCS, LSA 1864
Powne, B. L., LSA 1864, MRCS 1865
Powne, W., MRCS, LSA 1856
Pratt, G., MRCS 1845
Preston, W., MRCS 1855
Preston, W., MRCS 1866
Price, J. L., MRCS 1864, LSA 1865
Price, R. C., MRCS, LSA 1832
Price, W., MRCS, LSA 1821
Prichard, A., LSA 1840, MD Berlin 1841
Prichard, H. P., LSA 1834, MRCS 1835
Prichard, W., MRCS 1838, LSA 1839
Prideaux, A., MRCS 1834, LSA 1836
Pridham, J. W., MRCS 1860, LRCP 1862
Pridham, T. L., MRCS, LSA 1825
Prince, F. T., MRCS 1865, LSA 1866
Prince, T., LSA 1830, MRCS 1842
Pritchard, J. C., LSA 1826, MRCS 1843
Pritchard, J., MRCS, LSA 1849
Pritchett, G. M., MRCS 1839, LSA 1832
Pritchett, J. B., LSA, MRCS 1853
Proctor, A. G., LSA 1828, MRCS 1830
Proudlove, T. J., LSA 1834, LRCP 1859
Prowse, W., LSA 1848, MRCS 1849
Puddicombe, J. M., MRCS 1837, LSA 1838
Pugh, J. L. P., MRCS, LSA 1856
Pughe, H. R., MRCS, LSA 1857
Pullin, H. T. S., MRCS 1850, MD St. And. 1862
Pyne, R., LSA 1826, MRCS 1827

Quarrell, W., MRCS 1863
Quennell, J. C., MRCS, LSA 1859
Quick, J. R., MRCS, LSA 1836
Quick, J., MRCS, LSA 1866

Radcliffe, H. J., MRCS 1831, LSA 1830
Radley, W. H., MRCS, LSA 1857
Rae, Sir W. C. B., MRCS 1811, FRCS 1843
Randall, A. M., LSA 1821, MRCS 1822
Rainbird, H., MRCS 1856, LRCP Edin. 1860
Rainey, W. B., MRCS 1851, LRCP Edin. 1859
Randall, J., MB 1842, MD Lond. 1848
Randall, J. G., MRCS 1866
Randall, W., MRCS 1872
Randell, E. B., MRCS 1862
Randolph, C., MRCS 1871
Raven, T. F., MRCS 1864
Ray, C., MRCS 1836, MD Pisa 1838
Raymond, L., MRCS 1852
Read, A., MRCS 1866
Read, C., LSA 1872
Read, C. G., LSA 1843, MRCS 1844
Reade, A. C., MRCS, LSA 1864
Ree, H. P., LSA 1839, FRCS 1858
Reece, R., LSA 1832, MRCS 1851
Reed, G., MRCS 1858, MD St. And. 1862
Reeve, J. F., MRCS 1812
Reeve, J. F., MRCS 1846, MD Aberd. 1857
Reid, F., MRCS LSA 1872
Reid, J., MRCS 1843, LSA 1844
Reid, L. H., MRCS 1866
Rendall, C., LSA 1837
Rendell, R., MRCS, LSA 1832
Rendell, W. J., MRCS, LSA 1853
Rendle, J. D., MRCS 1846, MD St. And. 1862
Renshaw, B., MRCS, LSA 1868
Renshaw, E., MRCS 1866, LSA 1869
Reynolds, T., MD Erlang. 1863
Reynolds, H. W., LSA 1822, MRCS 1843
Rhind, S., MRCS 1852, LRCP Edin. 1859
Rice, B., MRCS 1852, MB Lond. 1852
Richards, O., LSA 1834, MD Aberdeen FRCS 1848
Richardson, W. H., MRCS 1859, LSA 1860
Ridley, J. S., MRCS 1858, MD St. And. 1859

Rigden, G. C., MRCS, LSA 1839
Riley, F. L., LSA 1872
Riley, H., LSA 1831, MRCS 1860
Ringer, B. S., MRCS 1869, LSA 1870
Riscoe, R. B., MRCS 1846
Robarts, H. P., LSA 1826, FRCS 1844
Roberts, J., MRCS 1834, MD Erlang. 1853
Roberts, R., LSA 1858
Roberts, T. E., MRCS 1864, MD Edin. 1864
Roberts, W., MRCS 1870, LSA 1872, MB Aber. 1873
Robinson, C., MRCS 1842, FRCS 1857, FRCP Edin. 1865
Robinson, C. R., MRCS 1846
Robinson, G., MRCS 1861, LM 1862
Robinson, H., MRCS 1861, LSA 1862
Robinson, R., MRCS 1866
Robinson, R., MRCS, LSA 1870
Robinson, S. H., MRCS 1862
Roeckel, J. W., MRCS 1873
Rogers, B., MRCS 1857, MD St. And. 1862
Rogers, G. O., MRCS, LSA 1826
Rogers, H. C., MRCS, LSA 1865
Rogers, H., MRCS 1848, LDS 1860
Rogers, H. J., MRCS 1852, LRCP Ed. 1862
Rogers, T. A., MRCS 1847, LDS 1860
Rogers, T. L., MRCS 1853, MD St. And. 1857
Rogerson, G., MRCS, LSA 1827
Rogerson, J., LSA 1827
Rolleston, G., FRS, MD Oxon. 1857, FRCP 1859
Roper, C. H., MRCS, LSA 1850
Roper, G. S., MRCS, LSA 1836
Roscow, P., MRCS, LSA 1845
Roskrudge, T. H. A., LSA 1838, MRCS 1839
Rouse, E., MRCS 1833, LSA 1836
Rowley, E. B., LSA 1825, MRCS 1826
Rowley, J., LSA 1834, MRCS 1837
Roworth, A. H., MRCS, LSA 1867
Royds, W. A. S., MRCS 1866, LRCP 1867, LSA 1868
Ruddock, E. H., MRCS 1863, MRCP Edin. 1865
Rudge, H., MD Erlang. 1814
Rummin, G., LSA 1859
Rumsey, C., LSA 1831, MRCS 1832
Rundle, H., MRCS, LSA 1866, FRCS 1870
Rusher, J. G., LSA 1841, MRCS 1842
Russell, G. I., MRCS 1820, MD Aberd. FRCS 1854
Russell, G. I., jun., MRCS, LSA 1860
Russell, J., MRCS 1857
Rust, H. R. G., MRCS LSA 1865
Rye, A. B., LSA 1836, FRCS 1852
Rymer, J., MRCS 1815

Sadler, M. T., jun., MRCS 1855, MD Lond. 1861
Sadler, S. E., MRCS 1832, FRCS 1862
Salmon, A. L., LSA 1872
Salmon, F., MRCS 1818, LSA 1817
Samuel, R., MRCS 1868
Salter, J. R., MRCS, LSA 1852
Sandell, LSA 1830, MRCS 1831
Sanders, E., MRCS, LSA 1868
Sanderson, H. J., MRCS 1842, MD St. And 1853
Sandiland, A. H., MRCS, LRCP 1869
Sandwith, H., MD St. And. 1834, FRCP 1859
Sandwith, H., MD St. And. 1850
Sankey, J. O., MRCS 1867, LSA 1872
Sankey, W., MRCS 1844
Sankey, W. H. O., MD Lond. 1850, FRCP
Sargent, D. W., LSA 1836, MRCS 1837
Saul, W. W., MRCS, LSA 1867, MD Heidelb. 1870
Saunders, E. D., MRCS 1828, LSA 1829
Saunders, G., CB, MRCS 1845, MD St. And. 1872
Saville, R., LSA 1836, MD Erlang. 1855
Savory, C. T., MRCS 1862, MD St. And. 1862
Savory, J. E., MRCS, LSA 1854
Savory, J. T., LSA 1823, MRCS 1824
Savory, W. S., FRS, MRCS 1847, FRCS 1852
Sawer, T., MRCS 1837
Sawkins, J., MRCS 1885
Sayer, C. W., LSA 1871 MRCS 1872
Scholfield, H. D., MRCS 1842, MD Oxon. 1847
Schollick, T. J., MRCS, LSA 1860
Scobell, Rev. G., MRCS 1853
Scobell, H., MRCS 1872
Scobell, T. E., MRCS 1867
Scott, J., LSA 1833, FRCS 1854
Scott, R. J., MRCS, LSA 1844
Searle, G. C., LSA 1831
Sedgwick, H., MRCS 1866, LRCP 1868
Selwood, H. C., MRCS 1861, MD St. And. 1862
Selwood, J. H., LSA 1829, FRCS 1864
Senior, C., MRCS, LSA 1858
Sequeira, H. L., LSA 1852, MRCS 1859
Sewell, J. J., MRCS 1828, LSA 1847
Shackleford, G., LSA 1827
Sharp, D., MB Edin. 1866
Sharpe, H. J., MRCS 1862
Sharpie, H. W., LSA 1850, FRCS 1862
Sharples, W., LSA 1834, MRCS 1835
Shaw, C. E. M., MRCS 1863, LSA 1864
Shaw, G. H., MRCS, LSA 1864
Shaw, H. E. F., MRCS 1844, LSA 1845
Shaw, J., MRCS 1869, LSA 1872
Sheehy, W. H., MRCS 1851, LRCP Edin. 1859
Shepard, W. L., MRCS, LSA 1865
Shephard, F., MRCS 1855, LRCP Edin. 1860
Sheppard, J. B., MRCS, LSA 1849
Sheppard, W., MRCS 1843, LSA 1844
Sherwin, W. C., MRCS 1859, LSA 1860
Shine, W. L., MRCS 1859
Shipton, J. N., MRCS 1855
Shurlock, M., LSA 1836, MRCS 1837
Sicard, A. B., MRCS, LSA 1831
Simon, A. C., LSA 1870, MRCS 1871
Simons, T. R., MRCS, LSA 1833
Simons, J. A., MRCS 1847, MD St. And. 1862
Simpson, C. M., MRCS 1862
Simpson, J. H., MRCS, LSA 1866
Simpson, R. P., MRCS, LSA 1865
Simpson, S. H., MRCS, LSA 1864
Simpson, W., MRCS 1863
Simpson, W. I., LSA 1823, MRCS 1824
Sison, E. N., MRCS 1842, LSA 1844

Skaife, F, LSA 1871, MRCS 1872
Skeate, E., MRCS, LSA 1834
Skeel, D., LSA 1827, MRCS 1829
Skeel, T., LSA 1837, MRCS 1838
Skelton, J., sen., MD Mass. 1855, LRCP Edin. 1864
Skrimshire, C. P., MRCS, LSA 1869
Slaytor, J. C., LSA 1836
Sleeman, P. R., MRCS 1839, FRCS 1854
Sloman, S. G., LSA 1837, MRCS 1839
Sloman, S. G., LRCP, MRCS 1869
Slyman, M. D., MRCS 1855, LSA 1858
Smart, D., LRCP Lond., MRCS 1869
Smart, T. W. W., MRCS 1827, MRCP 1860
Smee, A., MRCS 1840, FRS, FRCS 1855
Smee, A. H., MRCS 1866
Smith, C. E., MRCS 1858, MD St. And. 1859
Smith, C. W., MRCS 1870, LSA 1872
Smith, E., MRCS 1834, LSA 1835
Smith, E. R., MRCS 1864, LSA 1865
Smith, F. M., MRCS 1851, MD St. And. 1857
Smith, G., BA, MB Dublin 1869, MRCS 1871
Smith, H., MRCS 1864
Smith, H. A., MRCS, LSA 1870, FRCS 1872
Smith, H. Spencer, MRCS 1837, FRCS 1843
Smith, J., LSA 1847, MRCS 1849
Smith, J. B., FRCS Edin. 1846, MRCS 1846
Smith, J. R., LSA 1824, MRCS 1859
Smith, J., LSA 1833, MD St. And. 1853
Smith, P., MD Aber. 1844, MRCP Lond. 1846
Smith, R. W., MRCS 1860, LRCP 1863
Smith, R., LSA 1828, MRCS 1829
Smith, T., MRCS 1854, FRCS 1858
Smith, T., MRCS, LSA 1868
Smith, W. A., MRCS, LSA 1856
Smith, W., MRCS, LSA 1834
Smith, W. J., MRCS, LSA 1857
Smith, W. A., MRCS 1856, MD St. And. 1857
Smith, W. R., LSA 1872
Soame, C. B. H., MRCS, LSA 1854
Solly, S., MRCS 1828, FRCS 1843, FRS
Solomon, J. V., LSA 1838, FRCS 1854
Soper, J. H., MRCS 1855
Southey, R., MD Oxon. 1866, FRCP 1866
Southam, F., LSA 1841, MRCS 1842
Southam, G. T. M., MB Lond. 1863, MRCS 1862
Southam, T., LSA 1830, MRCS 1831
Southcomb, W. T., LSA 1824, MRCS 1825
Spackman, F. C., MRCS, LSA 1849
Spear, J., MRCS 1873
Spencer, E., in practice prior to 1815
Spencer, J. H., LSA 1835, MRCS 1836
Spicer, N. W., jun., MRCS 1853, LSA 1854
Spooner, E. O., LSA 1829, FRCS 1852
Spouncer, F. C., MRCS 1859, LSA 1860
Spurway, C., MRCS 1863
Square, W., MRCS, LSA 1866, FRCS 1871
Square, W. J., MRCS, LSA 1835
Squire, A., LSA 1833, MRCS 1839
Stables, W. W. G., MRCS, LRCP Edin. 1869
Stacpoole, G. C., MD Edin. 1845
Stafford, S. J. F., LSA 1858, MRCS 1851
Stallard, J. H., LSA 1842, MB Lond. 1858
Staning, R., MRCS 1837
Stanwell, W., MRCS, LSA 1855
Stanton, J., LSA 1832, MRCP 1859, MD Heidelb. 1842
Starke, A. G. H., MRCS 1859, MD St. And. 1861
Starling, R. T., LSA 1824, FRCS 1856
Steel, C. D., MRCS 1836, FRCS 1859
Steel, J. S., MRCS 1843, MD Aberdeen 1854, FRCP Edin. 1855
Steele, H. C. B., MRCS, LSA 1831
Steele, S. T., MRCS, LSA 1872
Stephenson, T. A., MRCS, LSA 1855
Stephenson, W., MRCS 1861, LSA 1862
Stevens, D. F., MRCS 1855, LSA 1856
Stevens, N. H., MRCS 1850
Stevenson, J. F., MD Edin. 1846, MRCS 1847
Stevenson, N., MRCS 1857, LDS 1862
Stewart, C., MRCS 1862
Stilwell, G., LSA 1827, MRCS 1828
Stilwell, H., MRCS 1857, MD Edin. 1857
Stocker, G. S., MRCS 1831, LSA 1837
Stokoe, LSA 1828, MD St. And. 1862
Stone, D., LSA 1841, MRCS 1842
Stone, R. N., MRCS, LSA 1836, LRCP Edin. 1859
Stone, R. S., MRCS, LM, LSA 1863, LRCP 1864
Stonehouse, C., LSA 1854, MRCS 1860
Stones, W. H., MRCS, LSA 1840
Stoney, P. B., MRCS 1870, LM and LRCP Edin. 1871, LSA 1872
Storrs, R., MRCS 1856, LSA 1857
Stott, T. S., MRCS 1863, LSA 1864
Stowell, T., MRCS 1863, MD New York 1864
Stowers, J. H., MRCS 1873
Stowers, N., MRCS 1838, LSA 1839
Strafford, T. MRCS, LRCP 1871
Stretton, S., MRCS 1854, LSA 1856
Stretton, W. H., MRCS 1851, LSA 1853, MD St. And. 1872
Strickland, E., MRCS, LSA 1860
Strutt, G. H., LSA 1860, MRCS 1861
Stubbs, H., LSA 1831, FRCS 1843
Sturkey, H. G., MRCS 1853, LRCP Edin. 1859
Stutter, F. A., MRCS 1853, MD St. And. 1860
Sugden, W., MRCS, LSA 1839
Summers, R. H., MRCS 1822
Sumner, W. A., MRCS, LSA 1842
Sutton, C. F., MRCS, LSA 1820
Sutton, H. G., MRCS, LSA 1860
Swales, E., LSA 1858, MRCS 1860
Swales, P., MRCS 1861, LSA 1862
Swan, W., MRCS 1866, MB Oxon. 1868
Swayne, S. H., MRCS 1843, LSA 1844
Swift, G., LSA 1824, LRCP Edin. 1863
Sylvester, G. M., MRCS, LSA 1839
Sylvester, K. W., MRCS, LSA 1872
Symons, H. E., MRCS 1869, LRCP. 1870
Sympson, T., MRCS 1847, FRCS 1872

Taaffe, R. P B., MRCS 1852, MD Lond. 1865
Tait, E. W., LSA 1851, MRCS 1852
Tanner, R. C., MRCS 1861
Taplin, B. D., MRCS 1854, LRCP Edin. 1860

Taplin, T., MRCS, LSA 1824
Tarleton, J. H., MA Cantab. 1863, MRCS 1865, LSA 1866
Tate, R., in practice prior to 1815
Taunton, G., MRCS 1848, LSA 1852
Taunton, T., MRCS, LSA 1835
Tayler, C., LSA 1837, MRCS 1838
Tayler, G. C., MRCS 1866, MB Lond. 1866, MD 1871
Taylor, H., MRCS, LSA 1863
Taylor, H., MB Lond. MRCS 1872
Taylor, J. E., MRCS 1845, LSA 1846
Taylor, J. S., LSA 1844, MD Aber. 1853
Taylor, T., MRCS 1842, LSA 1843
Taylor, T., MRCS 1818
Taylor, T., LSA 1821, FRCS 1861
Taylor, T., MRCS 1837
Taylor, W., MRCS, LSA 1830
Tattersall, W. J., MRCS, LSA 1866
Taynton, H., MRCS 1836, LSA 1839
Teare, T. M., jun., MD St. And., MRCS 1862
Tench, E. B., MRCS, LSA 1857
Terry, C., MRCS, LSA 1856
Terry, G., MRCS, LSA 1852
Terry, J., LSA 1825, MRCS 1826
Terry, J. J., LSA 1827
Theed, F., MRCS 1836, FRCS 1852
Thibou, J. W., MRCS 1864
Thomas, D. H., MRCS 1863, LSA 1865
Thomas, D. P., MRCS 1848, LSA 1851
Thomas, E., MRCS 1864
Thomas, G. J., MRCS 1873
Thomas, J., MRCS 1836, LSA 1837
Thomas, J. B., MRCS 1864
Thomas, J., MRCS, LSA 1857
Thomas, J. H., MRCS 1850, MD Aberdeen 1860
Thomas, R., MRCS, LSA 1853
Thomas, R. H., MRCS, LSA 1853
Thomason, W. J., MRCS 1861, LSA 1860
Thompson, C. M., MRCS, LSA 1817
Thompson, C. R., MRCS 1850, LSA 1851
Thompson, C. T., MD St. And. 1855
Thompson, H., MRCS 1859, LSA 1860
Thompson, H., MRCS, LSA 1871
Thompson, J. N., LSA 1824, MRCS 1825
Thompson, W. W., MRCS 1856, LSA 1857
Thomson, C. E., LSA 1828, FRCS 1863
Thorne, T. H., MRCS 1861
Thorne, R. T., MRCS 1863, MRCP 1867, MB Lond. 1866
Thorne, F. L., MRCS, LSA 1869
Thorne, W. B., MRCS 1869, LRCP 1870
Thornley, R. S., MRCS 1845, LSA 1846
Thurland, F. E., MRCS 1871, LSA 1872
Thursfield, W., LSA 1824
Thurston, G. J., MRCS 1848, LRCP Edin. 1860
Tibbits, H., MRCS 1865, LRCP 1865
Tibbits, J., MRCS 1853, MD St. And. 1853
Tidboald, J. A., LSA 1827, MRCS 1828
Timmins, J. A. J., MRCS 1867, LSA 1868
Tindale, A. McI., MRCS, LSA 1865
Tinsley, W. W., MRCS, LSA 1850
Tobin, G., MRCS 1867, LSA 1869
Tomlinson, R. S., LSA 1827, MRCS 1828
Tompson, C. A. J., MRCS 1849, LSA 1858
Toogood, T. B., MRCS, LSA 1833
Tosswill, L. H., MB Cantab. 1869, MRCS 1870
Tothill, F. D., LSA 1833, FRCS 1864
Tracey, S. J., MRCS 1849, LRCP Edin. 1860
Tremearne, J., MRCS 1867
Trevan, F., LSA 1826, MRCS 1827
Trevan, M., LSA 1819
Trevan, M., MRCS 1863, LRCP 1863
Trollope, T., MB Cantab. 1854, MD 1863, MRCS 1856, MRCP 1869
Troughton, N., MRCS 1818, LSA 1819
Tuck, Rev. T. R., MRCS 1836
Tucker, R. P., MRCS 1834
Tuckwell, H. M., MRCP 1862, MD Oxon. 1863
Tuckwell, W. J. S., MRCS, LSA 1833
Tuke, D. H., MRCS 1852, MRCP 1860
Turner, C., MRCS 1853, LRCP Edin. 1860
Turner, C. C., MRCS, LSA 1841
Turner, E. W., MRCS, LSA 1856
Turner, J. W., LSA 1841, FRCS 1846
Turner, J., MRCS 1820, FRCS 1855
Turner, R., MRCS 1833, MD St. And. 1860
Turner, T., MRCS 1858, LRCP Edin. 1860
Turner, Professor W., MB Lond. 1857, MRCS 1853, FRCS Edin. 1861
Turner, F. H., MRCS 1869, LSA 1870
Turney, T. H., MRCS 1856, LSA 1857
Tuxford, J. E., sen., LSA 1824, LRCP Edin. 1859
Twigge, N. B., MRCS, LSA 1831
Twining, E., MRCS 1840, LSA 1841
Tyack, J., MRCS 1856
Tylecote, E., LSA 1826
Tylecote, E. T., MRCS 1855, MD Aber. 1860
Tyrer, R., MRCS 1843
Tyte, R. H., MRCS 1853

Upton, H. C., MRCS, LSA 1866
Upton, T. S., MRCS, LSA 1840

Vallack, A., MRCS, LSA 1836
Vallance, E., MRCS, LSA 1863
Valpy, W. H., LFPS Glas. 1853, LM Glas.
Van, A. F., MRCS, LSA 1859
Vardy, J., MRCS 1842
Vaudin, C., MRCS 1853, LRCP Edin. 1860
Vaughan, W. E. W., MRCS, LSA 1855
Venn, A. J., MB Aber. 1873
Venn, T., MRCS, LSA 1848
Verey, G., MRCS 1859
Verity, A. B., MRCS 1840
Vernon, B. J., MRCS 1862, FRCS 1864
Vicary, C., MRCS, LSA 1845
Vicary, G. T., MRCS, LSA 1841
Vickers, T., LSA 1831, MRCS 1833
Vise, A. B., MRCS, LSA 1854
Vise, E., MRCS 1841, LSA 1842

Wadams, E., MRCS 1843, LSA 1845
Wade, C., MRCS 1866, LSA 1868
Wade, R., LSA 1871, MRCS 1872
Waghorn, F., MRCS 1862, MD St. And. 1862
Wall, A. LSA 1878
Wall, A., LSA 1871, MRCS 1872
Walker, B., MRCS, LSA 1861

Walker, C., LSA 1846, MRCS 1848
Walker, C. E., MRCS 1866
Walker, G., MRCS, LSA 1825
Walker, G. A., LSA 1829, MRCS 1831
Walker, J. W., MRCS 1850, MB Lond. 1850
Walker, T., LSA 1834
Walker, W. H., MRCS 1860, LSA 1861
Wallace, A., MRCP 1857, MD Oxon. 1861
Wallis, G., MRCS 1857, LSA 1858
Walsham, W. J., LSA 1870, MB & CM Aberd. 1871
Walter, J., MRCS, LSA 1831
Walter, O. C., MRCS, LSA 1831
Walton, H., FRCS 1848
Walton, J. S., MRCS 1835
Wane, W. J., MRCS 1865
Ward, J., MRCS, LSA 1835
Ward, S. M., MRCS 1860, MB Cantab. 1860
Ward, W. S., MRCS 1832
Ward, W. A., LSA 1871, MRCS 1872
Ware, J., MRCS 1817
Ware, J. T., MRCS 1840, FRCS 1845
Ware, R., MRCS, LSA 1826
Waring, T. W., LSA 1833
Warner, J., MD St. And. 1862, MRCS 1860
Warner, T., LSA 1823, MRCS 1824
Warren, F. H., MRCS, LSA 1837
Warren, T. A., LSA 1838, LSA 1843
Warren, T., MRCS 1868, LSA 1869
Warry, E. T., LSA 1824, MD St. And. 1856
Warwick, J., FRCS 1859
Warwick, R. A., MRCS 1854, MD St. And. 1858
Waterland, H. J., MRCS 1847
Watkins, D. D., MRCS, LSA 1855
Watling, T. F., MRCS 1813
Watson, F. H., MRCS 1866
Watson, J., LSA 1824, MRCS 1825
Watson, R. M., MRCS, LSA 1827
Watson, Sir T., Bart., MD Cantab. 1825, FRCP 1826
Watts, G., LSA 1852
Watts, G. H., MRCS 1850, LM Dub. 1852
Waugh, A., MRCS 1853, LRCP 1864
Waugh, J. W., MRCS 1840, MD St. And. 1856
Waylen, A. R., MRCS 1856, MD St. And. 1858
Waylen, C. W., MRCS, LSA 1861
Waylen, E., MRCS 1848
Waylen, F. H., MRCS 1867
Waylen, G., LSA 1838, MRCS 1839
Waylen, W., LSA 1824, FRCS 1844
Wayman, C. P. S., MRCS, LSA 1870
Wearing, A., MRCS, LSA 1864
Weatherhead, J. F., MRCS 1872
Weatherly, F., MRCS, LSA 1841
Webb, G. F., MRCS, LSA 1865
Webb, H. S., LSA 1850, MRCS 1851
Webb, J. S., MRCS 1835, LSA 1836
Webb, J., MRCS 1839, FRCS 1856
Webb, R., MRCS, LSA 1854
Webb, T. F., MRCS 1835, LSA 1836
Webber, W., LSA 1821, FRCS 1859
Webber, W. L., MRCS 1873
Webster, G. E., MRCS, LSA 1851
Webster, W. H. B., LSA 1816
Weekes, G., LSA 1838, FRCS 1854
Weekes, J., MRCS 1849
Weekes, W. H. C., MRCS 1860, LSA 1862
Wells, J. H., MRCS, LSA 1834
Wesley, W. N., MRCS 1871
West, C., MD Berlin 1837, FRCP 1848
West, W. C., MRCS 1833, MRCP Edin. 1864, FRCS 1852
Wharry, C. J., MRCS, LSA 1871
Whateley, T., MRCS, LSA 1837
Wheeler, T. R., LSA 1842, MRCS 1843
Whidborne, G. F., LSA 1834, MD Heid. 1848
Whipple, C., MRCS 1863, LRCP 1864
Whitaker, E. F., MRCS, LSA 1824
Whitby, C. W., MRCS 1848, MB Aber. 1853
White, J. L., LSA 1836, FRCS 1845
White, R., MRCS, LSA 1816
Whitfield, R. F., LSA 1822
Whitling, H. T., MRCS 1854, LSA 1855
Whitney, W. U., MRCS, LSA 1835
Whitsed, J. L., MRCS 1873
Wicksteed, F. W., MRCS, LSA 1863
Wilcox, H., MB. Aber. 1873
Wilcox, W., MRCS 1863
Wilding, R., LSA 1838, MRCS 1839
Wilkins, E. P., MRCS 1847, LRCP Edin. 1859
Wilkins, H., MRCS 1835, LSA 1836
Wilks, G. F., LSA 1832, MRCS 1833
Willan, T. H., MRCS 1865, LSA 1866
Willcocks J., MRCS 1871
Willett, A., MRCS 1859, FRCS 1862
Willett, C. V., MRCS, LSA 1861
Willey, T., MRCS 1844
William, J., LSA 1860, MD St And. 1861
Williams, A. W., MRCS 1843, MD St. And. 1847
Williams, C., MRCS 1857
Williams, E., MRCS 1834, MD St. And. 1850
Williams, E., MRCS 1804
Williams, E. H., MRCS, LSA 1861
Williams, H., MRCS 1815
Williams, H. L., MRCS, LSA 1867
Williams, T. M., MRCS 1853, LSA 1864
Williams, J., MRCS 1822, LSA 1823
Williams, J., MRCS 1841, FRCS 1859
Williams, J., in practice prior to 1815
Williams, J., MD St. And., MRCS 1860
Williams, J.M., MRCS 1853, LM 1854, LSA 1854
Williams, J. T., MRCS, LSA 1867
Williams, N., in practice prior to 1815
Williams, O. W., MRCS 1820, MD Edin. 1840
Williams, P., MRCS, LSA 1856
Williams, R., MRCS 1873
Williams, R. P., LSA 1858
Williams, S. W. D., MRCS 1861, MD St. And. 1862
Williams, T. E., MRCS, LSA 1863
Williams, W., MRCS 1840, MD St. And. 1842
Williams, W., LSA 1826
Williams, W., MRCS 1825, FRCS 1859
Williams, W., MRCS 1842
Williamson, J. G., MRCS 1869, LRCP 1870
Willis, F., MB 1861, MD Oxon. 1864
Willis, G., LSA 1871
Wills, C. J., MRCS 1864, LSA 1865

Wills, J. S., MRCS, LSA 1850
Wilson, E., FRS, MRCS 1831, FRCS 1843
Wilson, F., MRCS 1858, MD Heid. 1858
Wilson, H. G., MRCS 1866
Wilson, J. A., MRCS 1859
Wilson, W. J., MRCS 1855, LRCP 1859
Wilton, F., MRCS 1855, LM 1856
Wilton, J. P., MRCS 1852, LSA 1854
Wing, C., MRCS 1814
Wingate, R., MRCS 1858, LSA 1860
Winkfield, A., FRCS 1869, MRCS 1859, LSA 1860
Winkfield, W. B., MRCS 1858, LRCP 1864
Winstone, B., MRCS 1841, MD Aber. 1847
Winterbotham, L., MRCS, LSA 1856
Wingar, J., LSA 1826, MRCS 1827
Wise, R. S., MRCS 1840, MD St. And. 1842
Wiseman, W. W., MRCS, LSA 1833
Withers, F. O. B., MRCS 1859, LSA 1860
Witt, C., MRCS 1821, MRCP 1861
Witt, C., MRCS 1841
Witten, E. W., MRCS, LSA 1856
Wolferstan, S., LRCP 1864, MRCS 1864
Wolstenholme, J. H., MRCS 1851, LSA 1852
Wood, A. J., MRCS 1830, MD St. And. 1858
Wood, F., MRCS 1841, FRCS 1860
Wood, G. L., LSA 1818, MRCS 1819
Wood, J. W., MRCS 1869
Wood, J. Y., MRCS 1836, LSA 1837
Wood, T., MRCS, LSA 1827
Wood, T. O., MRCS 1868
Wood, T. C., MRCS 1840, MD Aber. 1846
Wood, W., MRCS, LSA 1857
Wood, W. J., MRCS 1858, LSA 1859
Woodhouse, J., LSA 1829, MRCS 1831, MD, Aber. 1858
Woods, F. B., LSA 1830, MRCS 1856
Woods, F. H., MRCS 1859, LRCP Edin. 1860
Woods, G. A., MRCS, LSA, LRCP Edin. LM 1868
Woodward, J. R., MRCS 1824
Wookey, J., MRCS 1858, LSA 1861
Woolhouse, H. H., MRCS 1849
Woollett, R. F., LSA 1838, MRCS 1839
Woolley, T. S., MRCS, LSA 1863
Worboys, F. T. S., MRCS, LSA 1862
Worger, T. H., MRCS, LSA 1864
World, R. R., LSA 1837, LRCP Edin. 1860
Wormald, T., MRCS 1824, FRCS 1843
Worship, J. L., MRCS, LSA 1847
Wotton, C., MRCS 1858, MD St. And. 1859
Wray, D. C., MRCS 1856, MD St. And, 1862
Wright, J., MRCS, LSA 1853
Wright, M., MRCS 1863, LSA 1865
Wright, T. G., LSA 1827, MRCS 1829
Wright, W. K., LSA 1832, FRCS 1852
Wrixon, J., MRCS 1842, LSA 1854
Wyer, O. F., MRCS 1858, LSA 1859, MD Glasg. 1867
Wyman, G., LSA 1831, MRCS 1832
Wyman, J. S., LSA 1867, MB Lond. 1868
Wynne, J., MRCS, LSA 1834
Wynter, J. St. T., LSA 1830, MRCS 1858

Yarde, W., MRCS 1857, LSA 1858
Yarrow, G. E., MRCS, LSA 1863, LRCP 1871
Yate, E., MB. Lond. 1872
Yates, J., MRCS, LSA 1846
Yates, W. H., MRCS 1851, LSA 1852
Yearsley, J., MRCS 1827, MD St. And. 1862
Yonge, J., MD Oxon. 1821
Young, A., MRCS 1870, LRCP 1872
Young, J., MRCS 1872
Young, R., MRCS 1818, MD Aberdeen 1851

Gentlemen who desire their names to be added to this Register are requested to apply to the Honorary Secretary, who will be glad of any assistance in making it complete and correct.

EXAMINATIONS, 1873.

Senior Scholarship in Medicine, Surgery, Materia Medica, and Therapeutics—

1. A. F. Stevens
2. C. S. W. Cobbold

Senior Scholarship in Anatomy, Physiology, and Chemistry—

1. E. Crétin
2. G. H. Hames
   F. H. Spooner

Kirkes Medal—

H. J. Ilott
C. S. W. Cobbold } Æq.

Wix Prize—

J. C. Verco — *2nd Prize*—H. M. Barker

Hichens Prize—

C. S. W. Cobbold

PRACTICAL ANATOMY

Foster Prize { G. H. Hames / J. Ranking }
3. F. H. Spooner
4. W. H. Briggs
5. H. G. Cumming
6. F. Watts
7. W. Kebbell
8. F. H. Carter
9. J. Spark
10. J. K. Barton

Treasurer's Prize—F. S. Edwards
Examiner's Prize—F. S. Eve
3. T. J. Verrall
4. A. Upton
5. F. E. Woodward
6. A. G. Williams
7. J. H. Simpson
8. W. A. Shoolbred
9. W. R. Pearless
10. L. B. Calcott

ST. BARTHOLOMEW'S MEDICAL COLLEGE

THE MEDICAL AND SURGICAL STAFF.

Consulting Physicians—Dr. Burrows, D.C.L., F.R.S., Dr. Farre.
Consulting Surgeons—Mr. Wormald, Sir J. Paget, Bart., D.C.L., F.R.S.
Physicians—Dr. Black, Dr. Harris, Dr. Andrew, Dr. Southey.
Surgeons—Mr. Holden, Mr. Savory, F.R.S., Mr. Callender, F.R.S., Mr. Thomas Smith.
Assistant-Physicians—Dr. Church, Dr. Gee, Dr. Duckworth, Dr. Hensley.
Assistant-Surgeons—Mr. Willett, Mr. Langton, Mr. Morrant Baker, Mr. Marsh.
Physician-Accoucheur—Dr. Greenhalgh.
Ophthalmic Surgeons—Mr. Power, Mr. Vernon.
Dental Surgeon—Mr. Coleman.
Casualty Physicians—Dr. Hollis, Dr. Wickham Legg, Dr. Lauder Brunton.

LECTURES.

Winter Session 1872-73.

Medicine—Dr. Black, Dr. Andrew.
Clinical Medicine—Dr. Black, Dr. Harris, Dr. Andrew, Dr. Southey.
Surgery—Mr. Savory, F.R.S., Mr. Callender, F.R.S.
Clinical Surgery—Sir J. Paget, Bart., D.C.L., F.R.S., Mr. Holden, Mr. Savory, F.R.S., Mr. Callender, F.R.S, Mr. Thomas Smith.
Descriptive and Surgical Anatomy—Mr. Thomas Smith, Mr. Langton.
General Anatomy and Physiology—Mr. Morrant Baker.
Histology—Dr. Klein.
Chemistry and Practical Chemistry—Dr. Russell, F.R.S.
Materia Medica—Dr. Farre, Dr. Lauder Brunton.
Forensic Medicine and Hygiene—Dr. Southey.

Midwifery and Diseases of Women and Children—Dr. Greenhalgh.
Botany—Rev. George Henslow.
Pathological Anatomy—Dr. Gee.
Comparative Anatomy—Dr. Church.
Ophthalmic Medicine and Surgery—Mr. Power.
Dental Anatomy and Surgery—Mr. Coleman.
Mental Diseases—Dr. Clay Shaw.

DEMONSTRATIONS.

Diseases of the Skin—Dr. Duckworth.
Diseases of the Ear—Mr. Langton.
Orthopædic Surgery—Mr. Willett.
Diseases of the Eye—Mr. Vernon.
Morbid Anatomy—Dr. Gee.
Practical Surgery—Mr. Willett.
Practical Anatomy and Operative Surgery—Mr. Marsh, Mr. Cumberbatch, Mr. Furner.
Assistant-Demonstrators—Mr. Cripps, Mr. Walsham.
Mechanical and Natural Philosophy—Dr. Hensley.
Practical Physiology—Mr. Symons.

Medical Registrar—Dr. Hollis.
Surgical Registrars—Mr. Butlin, Mr. Milner.

COLLEGIATE ESTABLISHMENT.

Warden—Mr. MORRANT BAKER.

Students can reside within the Hospital walls, subject to the College regulations.

Ten Scholarships, varying in value from £20 to £100, are awarded annually.

Further information respecting Scholarships, Pupils' Appointments, and other details, may be obtained from Mr. Morrant Baker, and at the Museum or Library.

STATISTICAL TABLES

OF THE

PATIENTS UNDER TREATMENT

IN THE WARDS OF

ST. BARTHOLOMEW'S HOSPITAL

DURING 1872.

BY

THE MEDICAL REGISTRAR,

W. AINSLIE HOLLIS, M.D.

AND

THE SURGICAL REGISTRARS,

J. ASTLEY BLOXAM, F.R.C.S.

AND

H. SYMONS, M.R.C.S.

PREFACE.

Some considerable modification of the general form and arrangement of the Tables has been made this year in the Medical Report, at the suggestion of the Medical Council of the Hospital.

The principal alterations are as follows: — In Table I the Notes have been removed to an Appendix at the end of the Table. Tables II and III have been united into a single Table in the present Report (forming Table II). Table IV of the previous year is omitted. Several minor changes have also been made, but these it is not necessary to specify.

The Surgical Report remains nearly the same as in former years.

The principal alteration is that the Notes in Table I have been removed to an Appendix at the end of the Table.

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SURGICAL REPORT—

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ST. BARTHOLOMEW'S HOSPITAL.

1872.

Number of Beds in Medical Wards (including 14 for Diseases of Women)	230
" " " Surgical " {including 7 for Diseases of Women and 26 for Ophthalmic Cases}	428
" " " Unassigned...	18
	676

GENERAL STATEMENT OF THE PATIENTS UNDER TREATMENT DURING THE YEAR.

Patients remaining January 1st, 1872:			
Medical	168		
Surgical	328	... 496	
Admitted during the year:			... 6031
Medical	2036		
Surgical	3499	... 5535	
Discharged Cured or Relieved:			
Medical	1552		
Surgical	3203	... 4755	
Discharged Unrelieved:			
Medical	129		
Surgical	129	... 258	
Died:			... 6031
Medical	338		
Surgical	177	... 515	
Remaining January 1st, 1873:			
Medical	185		
Surgical	318	... 503	

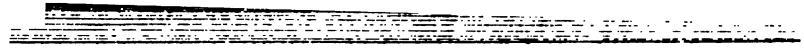
Patients brought in dead	17
Number of Post-mortem Examinations	320

OCCUPATIONS OF THE MALE PATIENTS.

Actor	1	Envelope-folders	2	Organ-grinder	1
Agents and collectors	7	Errand boys	24	Omnibus conductors	3
Apprentices	3	Excavators	28	Packers	7
Attendants at lunatic asylum	2	Factory lads	6	Packing-case makers	4
Bakers	19	Farmers and farm labourers	92	Painters & paper stainers	34
Bargemen & lightermen	6	Farriers	7	Paper-makers & sorters	18
Barmen	14	Feather dealer	1	Pawnbrokers	2
Basket-maker	1	Firemen	7	Photographers	2
Bathman	1	Fishermen	8	Phrenologist	1
Beadle	1	Fishmongers	6	Piano-tuners	4
Billiard table maker	1	French-polishers	15	Plasterers and plumbers	14
Bill-posters	2	Furriers	11	Policemen	9
Blacksmiths	35	Gamekeeper	1	Porters	98
Bookbinders	16	Gardeners	14	Potmen	10
Bootmakers	69	Gasfitters and makers	21	Printers and compositors	62
Brassfounders	19	Gate porters	4	Railway servants	8
Brewers and distillers	6	General dealers	8	Saddlers	7
Bricklayers	33	Gentlemen	2	Sailors	36
Brickmakers	2	Glass-blowers & glaziers	12	Sawyers	13
Brushmakers	5	Gold-chasers & workers	5	Scavengers	3
Builders and decorators	8	Greengrocers	9	Schoolboys	30
Butchers	33	Grocers	11	Schoolmasters	3
Butlers	7	Grooms and ostlers	43	Servants (gentlemen's)	14
Cab and car drivers	126	Gunsmiths	2	Shoeblack	1
Cabinet-makers	56	Gutta-percha workers	3	Shipwrights	4
Carpenters	52	Hairdressers & carders	14	Shopmen and boys	27
Carvers and gilders	15	Hatters	8	Silversmith	1
Cellarmen	5	Horsedealers & keepers	6	Soapboilers	2
Cheesemongers	4	Ironfounders and mongers	18	Soldiers	10
Chemists	6	Ivory cutter	1	Stationers	6
Cigar-makers and tobacconists	9	Jewellers	4	Stevedores	5
Clerks	51	Journalist	1	Stokers	7
Clock- and watch-makers	11	Labourers (day)	666	Surgical-instrument makers	6
Coachmakers	9	Lamplighters	2	Sweeps	9
Coalwhippers	10	Lead-workers and type-founders	8	Tailors	27
Cochineal cleaner	1	Letter-sorters & carriers	8	Tallowchandler	1
Coffee-house keepers	3	Licensed victuallers	10	Tarpaulin and sail makers	2
Cooks	4	Lithographers	4	Timekeepers and watchmen	6
Coopers	11	Looking-glass silverer	1	Travellers	10
Cork-cutter	1	Malster	1	Turners	12
Corndealer	1	Marine	1	Umbrella & stick makers	9
Costermongers	52	Masons	12	Undertakers and upholsterers	3
Crossing-sweeper	1	Match-box makers	2	Waiters	37
Custom house officer	1	Matmakers	4	Warders	3
Cutlers	5	Medical man	1	Warehousemen	18
Dock labourers	13	Messengers	5	Water gilders	2
Drapers	13	Milkmen	9	Watermen	7
Drovers	6	Millers	3	Weavers	10
Drug-grinder	1	Musicians	5	Whitesmiths	7
Dyers	6	Newsvendors	5	Wine-coopers & bottlers	4
Engine-drivers and engineers	31	Oilmen	3	Wiredrawers & workers	6
Engraver	1	Optician	1		

OCCUPATIONS OF THE FEMALE PATIENTS.

	In General Wards.	In Venereal Wards.		In General Wards.	In Venereal Wards.
Artificial-flower makers ...	8	—	Housekeepers	5	—
Ballet girl.....	1	—	India-rubber workers	2	—
Barmaids	6	—	Laundresses	59	—
Bookfolders	11	—	Lead-workers	7	—
Bootmakers	4	—	Lucifer-makers.....	7	—
Bottle washers	3	—	Machinists.....	37	—
Boxmakers	9	—	Mat and sack makers	5	—
Brushdrawers and makers..	3	—	Milliners and needlewomen	74	2
Cartridge-makers	3	—	Musician	1	—
Charwomen	31	—	Nurses (hospital)	36	—
Collar-makers	7	—	„ (domestic).....	11	—
Cooks and confectioners ...	16	—	Paper-stainers	6	—
Domestic (married)	908	20	Prostitutes	10	372
Envelope-makers	2	—	Scholars.....	27	—
Feather sorters.....	2	—	Schoolmistresses	4	—
Firewood cutter	1	—	Servants	343	32
French polishers	3	—	Shopwomen	13	—
Furriers.....	3	—	Straw-plaiters	2	—
Gold-charm maker	1	—	Tailoresses.....	7	—
Hair-workers.....	10	—	Tin worker	1	—
Hatmakers and bonnet-shape makers	7	—	Umbrella-makers	2	—
Hawkers	22	2	Upholsteress	1	—
Hemp-puller.....	1	—	Weaveresses	5	—



MEDICAL REPORT.

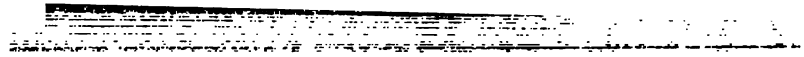


TABLE I,

Showing the total Number of Cases of each Disease under Treatment during the Year 1872, *with the Results.*

(The numbers after the names of the Diseases refer to the Appendix at the end of the Table.)

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1872.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
GENERAL DISEASES, A.										
Smallpox	4	...	...	...	4	...	...	...	...	...
Chicken pox	...	1	...	1	...	...	...	...	...	...
Measles (1)	2	6	2	4	...	...	...	2	...	...
Scarlet Fever (2)	3	7	3	6	...	...	...	1	...	...
Ditto, *Sequelæ of*	3	3	3	2	...	...	...	...	...	1
Typhus (3)	3	2	1	...	...	...	2	2	...	...
Enteric Fever (4)	19	34	15	26	...	...	2	4	2	4
Relapsing Fever	1	...	1	...	...	...	...	...	...	...
Simple Continued Fever	3	2	3	2	...	...	...	...	...	...
Febricula (5)	8	13	7	13	...	...	...	...	1	...
Ague (6)	10	2	9	2	...	...	1	...	...	...
Simple Cholera	1	...	...	...	...	...	1	...	...	...
Choleraic Diarrhœa	4	...	4	...	...	...	...	...	...	...
Diphtheria	1	2	1	...	...	...	...	2	...	...
Diphtheritic Paralysis	1	...	1	...	...	...	...	...	...	...
Hooping-cough	2	9	1	6	...	...	1	3	...	...
Mumps	1	...	1	...	...	...	...	...	...	...
Glanders	1	...	...	...	...	...	1	...	...	...
Erysipelas of the Face (7)	16	18	14	16	1	...	1	...	...	2
GENERAL DISEASES, B.										
Acute Rheumatism	43	36	35	30	...	...	...	...	8	6
Ditto, *with Pericarditis* (8)	23	22	16	16	...	1	3	1	4	4
Ditto, *with Endocarditis*	27	30	24	28	...	...	...	...	3	2
Ditto, *with Lung Complications*	6	2	6	1	...	...	...	...	...	1
Subacute Rheumatism	67	55	56	45	1	...	...	...	10	10
Gonorrhœal Rheumatism	5	1	5	1	...	...	...	...	...	...
Synovial Rheumatism (9)	6	1	5	1	...	...	...	...	1	...
Muscular Rheumatism	4	2	2	2	1	...	...	...	1	...
Lumbago	...	1	...	1	...	...	...	...	...	...
Chronic Rheumatism	8	11	7	10	...	...	...	...	1	1
Gouty Synovitis	2	2	1	1	...	...	...	...	1	1
Acute Gout	9	...	9	...	...	...	...	...	...	...
Chronic Gout	4	2	4	2	...	...	...	...	...	...
Chronic Osteo-arthritis	2	5	2	5	...	...	...	...	...	...
Cancer (10)	17	19	2	8	1	5	11	3	3	3
Lupus Exedens	2	...	1	...	...	...	...	...	1	...

TABLE I (*continued*).

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1872.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	
General Diseases, B (*continued*).										
Scrofula	1	2	1	2	...	...	...	...	...	
Ditto, *with Tubercle*	1	...	1	...	...	...	...	...	...	
Tubercular Meningitis	4	2	...	...	2	1	2	1	...	
Phthisis Pulmonalis	75	62	35	31	3	2	33	26	4	
Acute Miliary Tuberculosis	3	1	1	...	...	...	2	1	...	
Tubercular Peritonitis	1	1	...	...	...	...	1	1	...	
Rickets	4	2	4	2	...	...	...	...	...	
Diabetes (11)	10	5	4	1	1	1	2	3	3	
Purpura	1	3	1	2	...	1	...	...	...	
Hæmophilia (12)	1	...	...	...	...	...	...	...	1	
Anæmia	2	12	1	12	1	...	...	...	...	
Chlorosis	...	1	...	1	...	...	...	...	...	
General Dropsy	5	7	4	3	1	2	...	1	...	
Diseases of the Nervous System.										
Subacute Meningitis	...	1	...	1	...	...	...	...	...	
Cerebro-spinal Meningitis	1	...	1	...	...	...	...	...	...	
Cerebral Softening	4	...	1	...	1	...	2	...	...	
Sanguineous Apoplexy (13)	7	4	...	...	...	...	6	4	1	
Sunstroke	2	...	2	...	...	...	...	...	...	
Chronic Hydrocephalus	1	1	...	1	...	...	1	...	...	
Cerebral Tumours	3	...	2	...	...	...	1	...	...	
Diseases of Cerebral Vessels (14)	2	1	1	...	...	...	1	1	...	
Cerebral Disease	2	...	1	...	...	...	...	...	1	
Atrophy of Cord	...	1	...	...	...	1	...	...	...	
Softening of Spinal Cord	1	...	...	...	...	...	1	..	...	
Paralysis	2	1	1	1	1	...	...	...	...	
Hemiplegia (15)—*Right side*	10	11	6	9	1	1	...	1	3	
Ditto, Left side	5	13	3	10	1	2	...	...	1	
Paraplegia	17	10	15	6	...	3	...	...	2	
Locomotor Ataxy	5	...	2	...	2	...	...	...	1	
Local Paralysis (16)	3	5	2	1	1	1	...	...	...	
Aphasia (17)	1	...	1	...	...	...	...	...	...	
Tetanus	1	1	...	...	...	...	1	1	..	
Infantile Convulsions	1	6	1	3	...	1	...	1	...	
Epilepsy (18)	27	13	20	12	4	...	1	...	2	
Vertigo	2	...	2	...	...	...	...	...	...	
Spasm of Muscle	1	...	...	...	1	...	...	...	...	
Chorea (19)	13	28	9	25	1	1	...	...	3	
Hysteria (20)	1	24	1	22	...	1	...	...	...	
Neuralgia	3	2	2	2	1	...	...	...	...	
Cephalalgia	5	1	5	1	...	...	...	...	...	
Sciatica (21)	4	2	4	2	...	...	...	...	...	
Hypochondriasis	2	...	1	...	...	...	...	...	1	
Mania	4	2	2	1	2	1	...	...	...	
Paresis Cerebri	1	1	...	...	1	1	...	...	...	

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1873.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE NERVOUS SYSTEM (*continued*).										
Amentia (22)	...	1	...	...	...	1	...	...	...	...
Inflammation of Auditory Meatus	1	...	1	...	...	...	...	...	...	...
DISEASES OF THE CIRCULATORY SYSTEM.										
Pericarditis (23)	4	1	2	...	1	...	1	1	...	...
Adherent Pericardium	2	...	1	...	...	...	...	...	1	...
Cardiac Dropsy	10	11	1	6	1	3	7	1	1	1
Valvular Disease (24)	9	12	4	5	...	1	5	4	...	2
Ditto, *with Lung Complications*	1	...	1	...	...	...	...	...	...	...
Aortic Disease	11	6	5	4	2	...	4	2	...	...
Mitral Disease (25)	22	30	13	12	3	5	5	11	1	2
Cardiac Hypertrophy	1	9	1	4	...	1	...	4	...	...
Fatty Heart	2	1	...	...	1	...	1	...	...	1
Persistent Foramen Ovale	1	1	1	1	...	...	...	...	...	...
Angina Pectoris (26)	...	2	...	1	...	...	...	1	...	...
Arteritis (27)	1	...	...	...	...	...	1	...	...	...
Aneurysm of Aorta (28)	10	3	6	1	2	...	2	2	...	...
Phlebitis	1	2	...	2	...	...	...	...	1	...
Phlegmasia Dolens	...	2	...	2	...	...	...	...	...	...
Obstruction to Veins	3	1	3	1	...	...	...	...	...	...
Suppuration of Glands	1	1	1	1	...	...	...	...	...	...
Fibroid Enlargement (29)	...	3	...	...	...	3	...	...	...	...
Goitre	...	1	...	1	...	...	...	...	...	...
Addison's Disease	1	...	...	...	...	...	1	...	...	...
DISEASES OF RESPIRATORY SYSTEM.										
Croup (30)	2	2	1	...	...	...	1	1	...	1
Laryngitis	1	...	...	...	...	...	1	...	...	...
Laryngeal Catarrh	2	2	2	2	...	...	...	...	...	...
Bronchial Catarrh	8	10	5	7	1	...	2	2	...	1
Acute Bronchitis	9	14	7	9	...	...	2	4	...	1
Chronic ditto, *with Emphysema* (31)	50	34	29	23	5	1	12	7	4	3
Asthma (32)	3	3	2	2	...	...	1	1	...	...
Pneumonia—*Right side* (33)	17	5	14	4	1	...	1	1	1	...
Ditto, *Left side*	8	5	8	4	...	1	...	...	...	...
Ditto, *Double*	5	...	4	...	...	...	1	...	...	...
Ditto, *Chronic*	4	2	4	...	...	...	...	2	...	...
Ditto, *Lobular*	1	4	...	2	...	...	1	2	...	...
Pleuro-pneumonia—*Right side*	9	1	7	1	...	...	2	...	...	...
Ditto, *Left side* (34)	8	4	7	2	...	...	1	1	...	1
Ditto, *Double*	...	1	...	1	...	...	...	...	...	...
Gangrene of Lung	...	1	...	...	...	...	...	1	...	...
Hæmoptysis	13	6	11	5	...	...	2	1	...	...

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1872.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF RESPIRATORY SYSTEM (*continued*).										
Pleurisy—*Right side*	5	2	5	2	...	...	...	...	...	...
Ditto, *Left side* [35]	5	3	4	3	...	...	1	...	...	...
Ditto, *Double*	2	...	2	...	...	...	...	...	...	...
Empyema	3	2	2	...	...	...	1	2	...	...
Hydrothorax [36]	16	1	13	...	2	...	1	...	...	1
Hydropneumothorax	1	...	...	...	...	...	1	...	...	...
DISEASES OF DIGESTIVE SYSTEM.										
Stomatitis	1	1	1	1	...	...	...	...	...	...
Cancrum Oris	...	1	...	1	...	...	...	...	...	...
Suppurative Glossitis	1	...	1	...	...	...	...	...	...	...
Ulcerated Throat	...	3	...	3	...	...	...	...	...	...
Quinsy	2	5	2	5	...	...	...	...	...	...
Tonsillitis [37]	5	17	5	14	...	1	...	...	...	2
Gastric Ulcer	2	8	2	4	...	3	...	1	...	...
Hæmatemesis	13	7	11	5	1	...	...	...	1	2
Dyspepsia	5	10	4	10	1	...	...	...	...	...
Pyrosis and Vomiting	2	3	1	3	...	...	1	...	...	...
Enteritis	2	...	1	...	...	...	1	...	...	...
Typhlitis	...	3	...	2	...	...	...	...	...	1
Dysentery [38]	3	...	3	...	...	...	...	...	...	...
Intestinal Ulceration	...	2	...	...	...	...	...	1	...	1
Ditto Perforation [39]	...	1	...	...	...	...	...	1	...	...
Melæna	1	...	1	...	...	...	...	...	...	...
Obstruction of the Bowel	4	2	2	2	...	...	2	...	...	...
Parasitic Disease	1	2	...	2	1	...	...	...	...	...
Diarrhœa	10	9	10	7	...	...	...	1	...	1
Colic	5	1	5	1	...	...	...	...	...	...
Constipation	2	12	2	12	...	...	...	...	...	...
Abscess of Liver [40]	1	...	...	...	...	...	1	...	...	...
Enlarged Liver	8	3	3	2	3	1	1	...	1	...
Cirrhosis of Liver	20	8	7	...	2	...	10	7	1	1
Fatty Liver	1	1	...	...	...	...	1	1	...	...
Lardaceous Liver	5	2	1	1	...	1	4	...	...	...
Hydatid Disease [41]	3	4	1	2	...	1	2	...	...	1
Displaced Liver	...	1	...	...	...	...	...	...	...	1
Jaundice	3	7	1	5	...	2	...	...	2	...
Obstruction of Biliary Ducts by Gall-stones	4	3	4	3	...	...	...	...	...	...
Disease of Liver [42]	2	...	2	...	...	...	...	...	...	...
Abscess in Abdominal Walls	...	3	...	3	...	...	...	...	...	...
Abdominal Tumour	2	7	1	3	...	2	...	1	1	1
Enlarged Spleen [43]	1	5	1	4	...	...	...	...	...	1
Peritonitis	...	5	...	4	...	...	...	1	...	...
Ascites	2	1	...	...	2	...	...	1	...	...

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1872.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF URINARY ORGANS.										
Tubal Nephritis	8	9	3	4	1	1	2	3	2	1
Interstitial Nephritis (44)	70	30	27	16	3	1	31	9	9	4
Calculus in Kidney	1	1	...	...	...	...	1	1	...	...
Hæmaturia	2	3	1	3	...	...	...	...	1	...
Abscess in region of Kidney	...	1	...	1	...	...	...	...	...	...
Movable Kidney	...	3	...	2	...	...	...	...	...	1
Renal Disease	1	...	1	...	...	...	...	...	...	...
Incontinence of Urine	...	2	...	2	...	...	...	...	...	...
DISEASES OF THE FEMALE ORGANS OF GENERATION.										
Ovarian Disease (45)	...	7	...	4	...	1	...	1	...	1
Pelvic Cellulitis	...	10	...	9	...	...	...	...	...	1
Pelvic Abscess	...	3	...	3	...	...	...	...	...	...
Pelvic Hæmatocele	...	13	...	11	...	...	...	...	...	2
Leucorrhœa	...	4	...	4	...	...	...	...	...	...
Chronic Metritis (46)	...	10	...	9	...	...	...	1	...	...
Elongation of Cervix	...	4	...	4	...	...	...	...	...	...
Uterine Fibrous Tumour	...	14	...	12	...	2	...	...	...	...
Anteversion	...	1	...	1	...	...	...	...	...	...
Retroversion	...	11	...	11	...	...	...	...	...	...
Anteflexion	...	18	..	18	...	...	...	...	...	...
Retroflexion	...	4	...	4	...	...	...	...	...	...
Subinvolution	...	6	...	6	...	...	...	...	...	...
Prolapsus Uteri	...	1	...	1	...	...	...	...	...	...
Procidentia Uteri	...	1	...	1	...	...	...	...	...	...
Amenorrhœa	...	8	...	8	...	...	...	...	...	...
Dysmenorrhœa	...	5	...	4	...	...	...	...	...	1
Uterine Disease	...	6	...	5	...	...	...	...	...	1
Pregnancy	...	2	...	...	...	2	...	...	...	...
Abortion	...	1	...	1	...	...	...	...	...	...
Arrested Development of Uterus	...	1	...	...	...	1	...	...	...	...
Periostitis	...	1	...	...	...	...	...	...	...	1
Spinal Curvature	2	...	2	...	...	...	...	...	...	...
Malformed Spine	1	1	1	1	...	...	...	...	...	...
Muscular Atrophy	1	1	...	1	1	...	...	...	...	...
Obesity	...	2	...	2	...	...	...	...	...	...
SKIN DISEASES.										
Erythema	1	1	1	1	...	...	...	...	...	...
Ditto, *Nodosum*	1	4	1	4	...	...	...	...	...	...
Urticaria	...	1	...	1	...	...	...	...	...	...

TABLE I (*continued*).

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1872.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Skin Diseases (*continued*).										
Lichen Ruber	1	...	1	...	...	...	...	...	...	...
Psoriasis	...	1	...	1	...	...	...	...	...	...
Ditto, *Vulgaris*	...	1	...	1	...	...	...	...	...	...
Herpes Zoster	...	1	...	1	...	...	...	...	...	...
Pemphigus	...	1	...	1	...	...	...	...	...	...
Eczema Chronicum	...	2	...	1	...	...	...	...	...	1
Ditto Acutum	2	2	2	2	...	...	...	...	...	...
Ditto Hypertrophicum (47)	1	...	...	...	...	...	1	...	...	...
Ecthyma	...	1	...	...	...	...	...	...	...	1
Xeroderma	...	1	...	...	...	...	...	...	...	1
Senile Gangrene	1	1	...	...	...	...	1	...	...	1
Debility	8	34	8	32	...	...	...	...	...	2
Poisons.										
Mercurial Tremors	1	...	1	...	...	...	...	...	...	...
Lead (48)	...	1	...	1	...	...	...	...	...	...
Lead Colic	7	10	7	10	...	...	...	...	...	...
Ditto Palsy	3	1	2	1	...	...	...	...	1	...
Ditto Arthralgia (49)	1	...	...	...	...	...	1	...	...	...
Ammonia	1	2	1	2	...	...	...	...	...	...
Sulphuric Acid	...	1	...	1	...	...	...	...	...	...
Hydrochloric Acid (50)	...	1	...	...	...	...	...	1	...	...
Carbolic Acid	...	1	...	1	...	...	...	...	...	...
Opium	2	2	2	2	...	...	...	...	...	...
Belladonna	...	1	...	1	...	...	...	...	...	...
Alcohol—*Delirium Tremens*	29	1	26	1	1	...	2	...	...	...
Ditto, *Inebriety*	26	7	24	7	...	...	...	...	2	...
Carbonic Acid	1	...	1	...	...	...	...	...	...	...
Poisoning	...	1	...	...	...	...	...	...	...	1
Scalds	...	1	...	1	...	...	...	...	...	...
Exposure to Cold	1	...	1	...	...	...	...	...	...	...
Unclassed	7	8	7	7	...	...	...	...	...	1

ABSTRACT OF TABLE I.

	Total number of cases under treatment during the year.		Number of medical cases discharged cured & relieved.		Discharged unrelieved.		Died.		Remaining in the hospital at the end of the year 1872.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
General Diseases A	83	99	66	78	5	...	9	14	3	7
Do. Do. B	333	287	227	205	11	13	54	37	41	32
Diseases of the—										
Nervous System	132	129	86	97	17	14	14	8	15	10
Circulatory System	78	81	38	39	10	10	26	26	4	6
Glands	2	5	1	2	...	3	1	...	...	...
Respiratory System	172	102	127	67	9	2	31	25	5	8
Digestive System	111	137	72	99	10	11	23	15	6	12
Urinary System	82	49	32	28	4	2	34	13	12	6
Female Organs	...	130	...	116	...	6	...	2	...	6
Osseous System	3	2	3	1	...	...	...	...	...	1
Muscles and Cellular Tissue	1	3	...	3	1	...	...	...	...	...
Skin	7	17	5	13	...	...	2	...	...	4
Debility	8	34	8	32	...	...	...	...	...	2
Poisons, &c.	72	30	65	28	1	...	3	1	3	1
Unclassified	7	8	7	7	...	...	...	...	...	1
	1091	1113	737	815	68	61	197	141	89	96
	2204		1552		129		338		185	
			2204							

APPENDIX TO TABLE I.

1.—One fatal case of measles complicated with pericarditis, the other with pneumonia.

2.—Two cases were contracted in the hospital.

3.—A medical nurse died of typhus.

4.—Two cases of enteric fever had lung complications before death. One woman died with perforation of the intestines. An hospital nurse contracted the fever and recovered.

5.—Two hospital nurses had febricula.

6.—The fatal case of ague complicated with albuminuria and an enlargement of the spleen.

7.—An hospital nurse contracted erysipelas of the face and recovered.

8.—Three cases of acute rheumatism with pericarditis among the females were complicated with endocarditis, and three with some lung affection.

9.—A man with synovial rheumatism had pericarditis also.

10.—The fatal cases of cancer are recorded as follows:—Males, one mediastinal, one of the stomach, two of the colon, two of the pancreas, four of the liver. Females, one of the stomach, one of the liver, one of the rectum.

11.—A woman suffering from diabetes had a double cataract, another had exophthalmos.

12.—Dr. Legg in the 'Brit. Med. Journ.' (Vol. I, 1873) states that a brother of the patient was also afflicted with this disease.

13.—Among the fatal cases of sanguineous apoplexy occurring in men, one was cerebellar, another meningeal. A woman died of hæmorrhage into the right corpus striatum, another, after fracture of the pars petrosa, of apoplectic effusion into the pons Varolii and hæmatoma of dura mater.

14.—A woman died of intercranial aneurysm.

15.—Five men and three women suffering from right hemiplegia were affected in their speech and one man had aphasia. Three women with left hemiplegia were also affected in their speech.

16.—One case of paralysis of the external cutaneous and musculo-spiral nerves in a woman.

17.—The case of aphasia was complicated with cross paralysis of right arm and left leg.

18.—The case of epilepsy which proved fatal was complicated with heart disease.

19.—Three males and nine females had the chorea associated with heart disease.

20.—Hysterical hiccoughing in the man.

21.—One man admitted with sciatica suffered from aortic disease also.

22.—In the case of amentia the brain affection appeared subsequently to an attack *of acute* rheumatism with endocarditis.

23.—Diaphragmatic pleurisy complicated the attack of fatal pericarditis in the woman.

24.—A man with heart disease was subsequently attacked with right hemiplegia and aphasia.

25.—Eight men and five women had both mitral and aortic incompetence.

26.—The fatal case of angina pectoris was complicated with acute eczema.

27.—Arteritis with endocarditis, some constriction of aorta above the diaphragm, and symptoms of pyæmia before death.

28.—A woman who died of aortic aneurysm had mitral and aortic valvular disease also.

29.—This was the same case readmitted.

30.—In both the fatal cases of croup, tracheotomy was performed.

31.—A woman suffering from chronic bronchitis contracted facial erysipelas in the hospital.

32.—The woman who died of asthma had albuminous urine as well.

33.—The fatal case of pneumonia in the right side of a man was complicated with delirium tremens. The patient committed suicide by jumping out of a window.

34.—A man with left pleuro-pneumonia and effusion was attacked with tetanus before death.

35.—The fatal case of pleurisy of the left side was complicated with pericarditis and albuminous urine.

36.—Seven men with hydrothorax of the right side.

37.—Tonsillitis, with dysphagia from an abscess which burst into the œsophagus in a man.

38.—One case of dysentery was complicated with hepatic abscess.

39.—The perforation was situated at the appendix vermiformis.

40.—The abscess of liver followed an attack of dysentery.

41.—The two fatal cases of hydatid disease of the liver in men were complicated, the one with pyæmia, the other with ulcer of stomach. Two women with this affection were tapped.

42.—The disease of the liver in these cases was of uncertain nature, one man had symptoms of irregular intermittent fever.

43.—The enlargement of spleen in a man was associated with leucocythemia. A woman was readmitted with hæmorrhage from the bowel.

44.—A man (subsequently discharged relieved) was admitted with chronic Bright's disease of kidney complicated with delirium tremens.

45.—The ovarian disease in the fatal case was associated with syphilitic meningitis.

46.—Chronic ulcerous metritis with symptoms of pyæmia in the fatal case.

47.—The eczema was associated with fibroid disease of the lung in this case.

48.—The occupations of the patients admitted with symptoms of lead poisoning were as follows:—A lead-worker, a potman, a looking-glass fitter, a type-founder, an iron-moulder, a beer-engine maker, a cooper, a brass-finisher, a metal refiner—one man with no occupation, and another with it unrecorded. Seven women were employed at the lead works.

49.—The lead arthralgia in a looking-glass fitter was associated with amyloid disease of the viscera.

50.—A case of suicide by taking hydrochloric acid.

TABLE II.

Showing the comparative Frequency and Mortality of each Disease at different Ages.

DISEASES.	Under 5.				5–10.				10–15.				15–25.				25–35.				35–45.				45–55.				55–65.				65–75.				75 and upwards.				TOTAL.			
	Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.	
	M.	F.	M.	F.	M.	F.	M.	F	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Smallpox	...	...	...	...	1	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...
Chickenpox	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Measles	2	1	...	2	...	1	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	4	...	2
Scarlet Fever	...	...	...	...	1	3	...	...	2	1	...	...	...	1	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	6	...	1
Ditto, *Sequelæ of*	2	...	...	...	1	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	2	...	...
Typhus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	1	1	...	...	...	...	...	1	...	2	2
Enteric Fever	...	...	...	...	...	3	...	...	3	4	...	2	8	14	1	2	4	5	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15	26	2	4
Relapsing Fever	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Simple Continued Fever	...	...	...	...	...	1	...	...	2	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	2	...	...
Febricula	...	2	...	...	...	2	...	...	3	1	...	...	3	3	...	...	1	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	13	...	...
Ague	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	1	...	1	...	3	1	...	...	2	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	9	2	1	...
Simple Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Choleraic Diarrhœa	...	...	...	...	1	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Diphtheria	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...
Diphtheritic Paralysis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2
Hooping-cough	...	...	1	3	1	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Mumps	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	6	1	3
Glanders	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Erysipelas of Face	1	...	...	...	...	1	...	...	1	...	...	...	3	7	...	...	1	2	...	...	5	2	...	...	3	3	...	...	1	1	1	...	...	...	...	...	...	...	...	...	...	...	1	...
																																									15	16	1	...

DISEASES.	Under 5.				5–10.				10–15.				15–25.				25–35.				35–45.				45–55.				55–65.				65–75.				75 and upwards.				TOTAL.			
	Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Acute Rheumatism	...	...	...	...	...	...	...	...	...	2	...	...	17	14	...	...	12	8	...	...	6	3	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	35	30	...	...
Ditto, *with Pericarditis*	...	...	...	...	...	...	1	...	...	...	...	1	10	12	1	...	5	3	1	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16	17	3	1
Ditto, *with Endocarditis*	...	...	...	...	1	1	...	...	3	1	...	...	15	18	...	...	2	5	...	...	1	3	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24	28	...	...
Ditto, *with Lung Complications*	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	1	1	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	1	...	...
Subacute Rheumatism	...	...	...	...	1	3	...	...	2	2	...	...	19	15	...	...	17	8	...	...	11	8	...	...	4	5	...	...	3	2	...	...	...	2	...	...	...	...	...	...	57	45	...	...
Gonorrheal Rheumatism	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	5	1	...	...
Synovial Rheumatism	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	3	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	1	...	...
Muscular Rheumatism	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	1	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	3	2	...	...
Lumbago	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Chronic Rheumatism	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	1	2	...	...	1	2	...	...	4	3	...	...	...	1	...	...	...	1	...	...	...	...	...	...	7	10	...	...
Gouty Synovitis	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...
Acute Gout	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	5	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	...	...	...
Chronic Gout	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	3	...	...	...	...	...	...	...	1	...	...	...	...	...	...	4	2	...	...
Chronic Osteo-arthritis	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	2	...	...	...	2	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	2	5	...	...
Cancer	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	6	2	...	...	4	2	2	2	3	4	1	...	...	1	...	1	...	1	...	...	...	...	...	3	13	11	3
Lupus Exedens	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Scrofula	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	...	...
Ditto, *with Tubercle*	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Tubercular Meningitis	1	1	...	...	...	...	1	1	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	2	1
Phthisis Pulmonalis	...	...	...	...	...	2	...	1	1	...	...	...	8	13	9	10	15	6	11	9	8	7	8	5	4	4	3	...	1	1	2	...	1	...	...	...	...	...	...	38	33	33	26
Acute Miliary Tuberculosis	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	1
Tubercular Peritonitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Rickets	4	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	2	...	...
Diabetes	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	1	...	2	2	1	1	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	2	2	3
Purpura	...	...	...	...	...	1	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	3	...	...
Anæmia	...	...	...	...	...	...	...	...	...	...	...	...	1	11	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	12	...	...

TABLE II (*continued*).

DISEASES.	Under 5.				5–10.				10–15.				15–25.				25–35.				35–45.				45–55.				55–65.				65–75.				75 and upwards.				TOTAL.			
	Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Chlorosis	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
General Dropsy	...	...	...	...	1	...	...	...	...	...	...	...	...	2	...	...	2	1	...	...	...	1	...	...	1	1	...	1	...	...	...	...	1	...	...	...	...	...	...	...	5	5	...	1
Subacute Meningitis	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Cerebro-spinal Meningitis	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Cerebral Softening	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	...
Sanguineous Apoplexy	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	1	...	...	...	1	3	...	...	1	...	...	...	1	1	...	...	...	...	...	...	6	4
Sunstroke	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...
Chronic Hydrocephalus	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...
Cerebral Tumours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	2	...	1	...
Diseases of Cerebral Vessels	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1
Cerebral Disease	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Atrophy of Cord	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Softening of Spinal Cord	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Paralysis	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	...	...
Hemiplegia	...	1	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	2	...	...	3	3	...	...	7	6	...	...	1	5	...	...	...	1	...	1	...	...	...	...	11	22	...	1
Paraplegia	...	...	...	...	1	...	...	...	...	...	...	...	1	1	...	...	4	2	...	...	3	4	...	...	5	...	...	...	1	2	...	...	...	...	...	...	...	...	...	...	15	9	...	...
Locomotor Ataxy	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...
Local Paralysis	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	1	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	2	...	...
Aphasia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Tetanus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Infantile Convulsions	1	4	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epilepsy	...	...	...	...	1	...	...	...	...	1	...	...	3	6	1	...	6	1	...	...	9	2	...	...	5	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	4	...	1
Vertigo	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24	12	1	...
Spasm of Muscle	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...
Chorea	1	...	...	...	3	7	...	...	4	12	...	...	2	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Hysteria	...	...	...	...	...	...	...	...	...	1	...	...	1	13	...	...	...	8	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	26	...	...
Neuralgia	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	23	...	...
Cephalalgia	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	2	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	3	2	...	...
																																									5	1	...	...

DISEASES.	Under 5.				5–10.				10–15.				15–25.				25–35.				35–45.				45–55.				55–65.				65–75.				75 and upwards.				TOTAL.			
	Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Sciatica	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	2	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	2	...	...
Hypochondriasis	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Mania	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	2	2	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	2	...	...
Paresis Cerebri	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...
Amentia	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Inflammation of Auditory Meatus	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Pericarditis	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	2	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	3	...	1	1
Adherent Pericardium	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Cardiac Dropsy	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	...	...	3	2	...	...	1	2	...	...	1	...	1	2	2	2	...	...	...	...	...	...	...	...	...	2	9	7	1
Valvular Disease	1	...	...	...	1	1	...	...	4	3	...	...	4	11	2	5	8	2	5	5	5	6	3	2	5	1	3	1	...	2	1	4	...	1	...	...	...	...	...	...	28	27	14	17
Cardiac Hypertrophy	...	...	...	...	...	...	...	...	1	...	...	...	...	2	...	1	...	1	...	...	...	...	3	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	5	...	4
Fatty Heart	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1	...	1	...
Persistent Foramen Ovale	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...
Angina Pectoris	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Arteritis	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Aneurysm of Aorta	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	1	2	1	1	1	2	...	1	...	2	...	...	...	...	...	...	...	...	...	...	...	8	1	2	2
Phlebitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...
Phlegmasia Dolens	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...
Obstruction to Veins	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	...	...
Suppuration of Glands	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	1	...	...
Fibroid Enlargement	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...
Goitre	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Addison's Disease	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Croup	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1
Laryngitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Laryngeal Catarrh	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...
Bronchial Catarrh	2	...	2	1	...	3	...	1	1	...	...	...	2	2	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	6	7	2	2

TABLE II (*continued*).

DISEASES.	Under 5.				5-10.				10–15.				15–25.				25–35.				35–45.				45–55.				55–65.				65–75.				75 and upwards.				TOTAL.			
	Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Acute Bronchitis	1	2	1	1	...	...	...	...	...	2	...	...	2	3	...	1	2	...	...	1	...	1	1	1	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	7	9	2	4
Chronic Bronchitis	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	5	8	...	1	9	4	5	1	8	8	5	4	7	2	1	1	3	2	...	...	1	...	...	...	34	24	12	7
Asthma	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	1	1	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	2	2	1	1
Pneumonia	1	4	1	1	4	1	...	...	4	...	1	...	14	2	...	...	6	...	1	2	2	1	...	...	...	2	...	1	...	1	...	1	...	...	...	...	...	...	...	...	31	11	3	5
Pleuro-pneumonia	...	...	...	1	1	...	...	...	...	2	...	...	6	1	1	...	5	1	1	...	...	...	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14	4	3	1
Gangrene of Lung	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Hæmoptysis	...	...	...	...	...	1	...	...	...	...	...	...	2	1	2	...	5	1	...	...	4	1	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11	5	2	1
Pleurisy	...	...	...	...	2	...	...	...	1	...	...	...	3	2	1	...	2	2	...	...	1	1	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11	5	1	...
Empyema	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	1	2
Hydrothorax	1	...	...	...	2	...	...	...	...	...	...	...	4	...	...	...	3	...	...	...	3	...	...	...	1	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	15	...	1	...
Hydropneumothorax	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Stomatitis	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...
Cancrum Oris	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Suppurative Glossitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Ulcerated Throat	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...
Quinsy	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2	2	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	2	5	...	...
Tonsillitis	...	...	...	...	...	...	...	...	...	...	...	...	3	6	...	...	1	7	...	...	...	2	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	15	...	...
Gastric Ulcer	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	3	...	...	...	2	...	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	7	...	1
Hæmatemesis	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	...	...	4	...	...	...	5	1	...	...	...	1	...	...	...	1	...	...	...	...	...	...	12	5	...	...
Dyspepsia	...	...	...	...	...	...	...	...	...	1	...	...	...	3	...	...	1	5	...	...	...	...	...	...	2	1	...	...	1	...	...	...	1	...	...	...	...	...	...	...	5	10	...	...
Pyrosis and Vomiting	...	...	...	...	...	...	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	1	...
Enteritis	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
Typhlitis	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...
Dysentery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...
Intestinal Ulceration	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Intestinal Perforation	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Melæna	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Obstruction to Bowel	...	...	...	...	...	...	...	...	1	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	2	...

TABLE II (*continued*).

DISEASES.	Under 5.				5–10.				10–15.				15–25.				25–35.				35–45.				45–55.				55–65.				65–75.				75 and upwards.				TOTAL.			
	Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Parasitic Disease	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	...	...
Diarrhœa	2	1	...	1	2	2	...	...	3	...	...	...	2	2	...	...	...	1	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	7	...	1
Colic	...	...	...	...	1	...	...	...	1	...	...	...	2	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	1	...	...
Constipation	...	...	...	...	...	1	...	...	...	1	...	...	2	3	...	...	...	1	...	...	...	1	...	...	...	2	...	...	...	...	...	...	...	3	...	...	...	...	...	...	2	12	...	...
Abscess of Liver	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Enlarged Liver	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	2	2	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	6	3	1	...
Cirrhosis of Liver	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	2	4	...	2	4	3	...	2	1	1	...	4	...	...	...	...	...	...	...	...	...	9	...	10	7
Fatty Liver	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Lardaceous Liver	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	2	...	...	1	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	4	...
Hydatid Disease	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	2	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	2	...
Jaundice	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	4	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	7	...	...
Hepatic Disease	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...
Obstruction to Biliary Ducts by Gall-stones	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	...	...	1	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	4	3	...	...
Abscess in Abdominal Wall	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...
Abdominal Tumour	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	2	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	5	...	1
Enlarged Spleen	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	4	...	...
Peritonitis	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	2	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	1
Ascites	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	2	...	...	1
Acute Albuminuria	...	...	...	...	...	1	...	...	1	...	1	...	2	...	2	1	...	1	...	1	2	1	...	...	...	1	...	...	5	1	1	1	1	...	1	...	...	...	...	...	4	5	2	3
Chronic ditto	...	...	...	...	...	...	1	...	1	...	1	...	5	...	3	3	8	10	5	4	6	4	13	...	4	2	6	1	5	1	1	1	1	...	1	...	...	...	...	...	30	17	31	9
Calculus (Renal)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Hæmaturia renalis	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	3	...	...
Abscess in Region of Kidney	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Movable Kidney	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...
Renal Disease	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Incontinence of Urine	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...
Ovarian Disease	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	1	...	1	...	...	...	...	...	2	...	...	...	...	...	...	...	5	...	1

TABLE II (*continued*).

DISEASES.	Under 5.				5–10.				10–15.				15–25.				25–35.				35–45.				45–55.				55–65.				65–75.				75 and upwards.				TOTAL.			
	Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Pelvic Cellulitis	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	...	...
Pelvic Abscess	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...
Pelvic Hæmatocele	...	...	...	...	...	...	...	...	...	1	...	...	...	4	...	...	...	3	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11	...	...
Leucorrhœa	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...
Chronic Metritis	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	1	...	5	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	...	1
Elongation of Cervix	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	2	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...
Uterine Fibrous Tumours	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	8	...	...	...	2	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	14	...	...
Anteversion	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Retroversion	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	6	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11	...	...
Anteflexion	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	14	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18	...	...
Retroflexion	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...
Subinvolution	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	4	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...	...
Prolapsus Uteri	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...
Procidentia Uteri	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...
Amenorrhœa	...	...	...	...	...	...	...	...	...	1	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	...	...
Dysmenorrhœa	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...
Menorrhagia	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...
Uterine Disease	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...
Pregnancy	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...
Abortion	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Arrested Development of Uterus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...
Spinal Curvature	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...
Malformed Spine	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...
Muscular Atrophy	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...
Obesity	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...
Erythema	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...
Ditto *Nodosum*	...	...	...	...	...	1	...	...	1	...	...	...	...	2	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	4	...	...

TABLE II (*continued*).

DISEASES.	Under 5.				5–10.				10–15.				15–25.				25–35.				35–45.				45–55.				55–65.				65–75.				75 and upwards.				TOTAL.			
	Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Urticaria	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Lichen Ruber	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Psoriasis	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Ditto *Vulgaris*	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Herpes Zoster	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Pemphigus	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Chronic Eczema	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Acute ditto	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	2	2	...	...
Eczema Hypertrophicum	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Senile Gangrene	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Debility	1	...	...	...	...	2	...	...	1	1	...	...	1	9	...	...	1	14	...	...	3	5	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	8	32	...	...
Mercurial Tremors	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Lead Poisoning	...	...	...	...	...	...	...	...	...	...	...	...	2	3	...	...	3	2	...	...	...	6	1	...	4	1	...	...	...	...	...	...	...	...	...	...	...	...	...	9	12	1	...
Ammonia	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	2	...	...
Sulphuric Acid	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Hydrochloric Acid	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Carbolic Acid	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Opium	1	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	2	2	...	...
Belladonna	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Alcohol--*Delirium Tremens*	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	10	1	1	...	9	...	1	...	5	...	...	...	1	...	...	...	...	...	...	...	...	...	...	27	1	2	...
Ditto, *Inebriety*	...	...	...	...	...	...	...	...	...	...	...	...	3	2	...	...	5	...	...	...	6	1	...	...	8	2	...	...	1	2	...	...	...	...	...	...	1	...	...	24	7	...	...
Carbonic Acid	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Scald	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Exposure to Cold	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Unclassed	...	...	...	...	1	...	...	...	...	...	...	...	3	2	...	...	1	4	...	...	1	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	7	7	...	...

Table showing the Average Stay of the Medical Cases in Hospital, &c.

Within — Weeks of admission.	No. of Patients discharged.		Died.	
	M.	F.	M.	F.
1	143	103	67	48
2	101	145	29	20
3	121	95	27	15
4	103	115	12	13
5	99	96	6	12
6	62	76	10	6
7	35	53	11	2
8	42	46	6	5
9	29	35	5	1
10	15	26	1	5
11	10	25	2	2
12	13	15	4	3
13	6	8	...	2
14	5	7	2	3
15	6	9	1	...
16	1	5	2	1
17	4	2	...	...
18	2	2	3	1
19	3	3	...	...
20	...	2	1	1
21	1	1	...	...
22	...	...	...	...
23	2	...	2	...
24	1	...	...	...
25	...	1	...	...
26	...	3	1	1
27	...	...	1	...
28	1	1	...	...
33	...	1	...	...
36	...	...	1	...
43	...	...	1	...
48	...	1	...	...
83	...	...	1	...
85	...	...	1	...

The deaths which took place within one week of admission were on the days as shown to the right, No. 1 being the day of admission.

	M.	F.
1	24	14
2	6	4
3	12	7
4	10	12
5	5	5
6	5	6
7	5	

The total number of deaths during the year was 338

Of these there occurred within 24 hours of admission ..... 38, about $\frac{1}{9}$

Within one week of admission ... 115, „ $\frac{1}{3}$

„ a fortnight „ ... 164, nearly $\frac{1}{2}$

„ a month „ ... 231, above $\frac{2}{3}$

The average time of fatal cases in Hospital was in days { Males, 38·2 / Females, 27·38 } 33·06

The total number of discharges during the year was ... 1681

Of these the number whose stay in Hospital did not exceed a fortnight was ..... 492 ..... above $\frac{1}{3}$

Those whose stay did not exceed three weeks ..... 708 ..... „ $\frac{1}{2}$

„ „ „ four weeks ..... 925 ..... „ $\frac{2}{3}$

„ „ „ six weeks ..... 1259 ..... „ $\frac{3}{4}$

The average stay in Hospital of patients discharged was in days ..... { Males, 28·11 / Females, 36·11 } 32·26

The average time of all medical cases in the Hospital within the year 1872, was in days ..... { Males, 29·62 / Females, 34·7 } 32·17

There are 230 beds in the medical wards, giving the number of possible pernoctations for the year, 230 × 365, or 83,950; but of the ten medical wards five were wholly closed during a portion of the year. This would take away about 3150 from the possible number of pernoctations, leaving 80,800

The actual number of pernoctations has been as follows:

Of cases admitted in 1871 or 1872 and discharged in 1872	52,656	
Of cases remaining in at the end of the year 1872	6,014	
Of fatal cases of the year	11,223	
		69,893
Giving a difference of		10,907

This gives a nightly average of 29·88 empty beds — about 13 for males and 17 for females—and the time between successive occupants about 119 hours on an average, or about 3·95 days a month.

SURGICAL REPORT.

TABLE I,

Showing the total Number of Cases of each Disease under Treatment during the year 1872, *with the Results.*

(The numbers after the names of the Diseases refer to the Appendix at the end of the Table.)

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1872.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
GENERAL DISEASES.										
Phagedæna (1)	...	3	...	1	...	2	...	...	...	...
Erysipelas—										
a. Simple (2)	10	15	8	9	1	...	...	4	1	2
b. Phlegmonous (3)	45	7	35	7	...	...	3	...	7	...
c. Diffuse Inflammation (4)	36	21	33	20	...	...	...	...	3	1
Pyæmia (5)	3	3	1	...	...	1	1	2	1	...
Farcy (6)	1	...	...	...	...	...	...	...	1	...
Syphilis—										
A. Primary Syphilis—										
Hard Chancre (7)	35	11	32	11	...	...	...	...	3	...
Indurated Bubo	4	1	2	1	...	...	...	...	2	...
Soft Chancre (8)	47	74	43	69	...	...	1	...	3	5
Phagedænic Sore (9)	14	4	12	4	...	...	...	...	2	...
B. Hereditary Syphilis (10)	1	1	...	...	...	...	1	1	...	...
C. Secondary Syphilis—										
Local Syphilitic Affections—										
Brain	1	...	...	...	...	...	...	...	1	...
Face	1	2	1	2	...	...	...	...	...	...
Tongue	2	...	2	...	...	...	...	...	...	...
Pharynx	2	4	2	3	...	...	...	...	...	1
Larynx (11)	2	4	1	4	...	...	1	...	...	...
Rectum (12)	...	3	...	1	...	...	...	1	...	1
Testicle	2	...	2	...	...	...	...	...	...	...
Bone (13)	6	8	5	6	...	1	...	...	1	1
Skin (14)	47	220	42	192	...	1	1	3	4	24
Cancer—										
A. Scirrhous—										
Sigmoid Flexure (15)	...	1	...	...	...	...	...	1	...	...
Rectum (16)	6	2	...	...	5	1	1	...	...	1
Female Breast (17)	...	24	...	18	...	4	...	2	...	...
Lymphatic Glands (18)	...	3	...	3	...	...	...	...	...	...

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1872.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
GENERAL DISEASES (*continued*).										
B. Medullary Cancer—										
Scalp (19)	...	1	...	...	...	...	1	...	...	...
Female Breast (20)	...	3	...	...	...	...	...	3	...	...
Neck (21)	1	1	...	...	...	1	1	...	...	...
Shoulder (22)	...	1	...	1	...	...	...	...	...	...
Nostril (23)	1	...	...	...	1	...	...	...	...	...
Prostate (24)	1	...	...	...	...	...	1	...	...	...
Testis (25)	2	...	1	...	1	...	...	...	...	...
Uterus (26)	...	1	...	...	...	...	...	1	...	...
Bladder	1	...	...	...	...	...	...	...	1	...
Bone (27)	5	5	2	3	1	1	2	1	...	...
C. Epithelial Cancer—										
Lip (28)	13	...	10	...	2	...	...	...	1	...
Tongue (29)	5	1	4	...	1	1	...	...	...	...
Mouth (30)	1	1	...	...	1	1	...	...	...	...
Nose (31)	...	1	...	1	...	...	...	...	...	...
Œsophagus (32)	2	...	...	...	1	...	1	...	...	...
Leg (33)	...	2	...	2	...	...	...	...	...	...
Arms (34)	...	1	...	1	...	...	...	...	...	...
Scrotum (35)	1	...	1	...	...	...	...	...	...	...
Penis (36)	4	...	1	...	2	...	1	...	...	...
Clitoris (37)	...	1	...	1	...	...	...	...	...	...
Vagina and Labia (38)	...	5	...	...	...	3	...	2	...	...
D. Melanotic Cancer—										
Axilla (39)	...	1	...	...	...	...	...	1	...	...
Scrofula—										
Lymphatic Glands	1	2	1	2	...	...	...	...	...	...
Brain (40)	1	...	...	...	...	...	1	...	...	...
Intestine and Lungs (41)	1	1	...	...	...	1	1	...	...	...
Testicle (42)	9	...	9	...	...	...	...	...	...	...
Rectum	1	...	1	...	...	...	...	...	...	...
Bone (43)	3	3	2	2	...	...	1	1	...	...
Joints (44)	35	31	24	24	...	...	2	1	9	6
Lupus (45)	4	...	3	...	...	...	...	...	1	...
Chronic Rheumatic Arthritis (46)	2	2	1	...	1	2	...	...	...	...
Cretinism	1	...	...	...	1	...	...	...	...	...
DISEASES OF THE NERVOUS SYSTEM.										
Meningocele	1	...	...	...	1	...	...	...	...	...
Neuroma (47)	...	1	...	1	...	...	...	...	...	...
Neuralgic Scars (48)	3	...	2	...	...	...	1	...	...	...
Hysteria (49)	...	5	...	5	...	...	...	...	...	...

TABLE I (*continued*).

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1872.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Diseases of the Eye.										
A. Conjunctiva—										
Ophthalmia	1	3	1	3	...	...	...	...	...	...
Catarrhal Ophthalmia	2	2	2	2	...	...	...	...	...	...
Pustular „	...	2	...	2	...	...	...	...	...	...
Purulent „	1	2	1	2	...	...	...	...	...	...
Diphtheritic „	1	...	1	...	...	...	...	...	...	...
Strumous „	2	...	2	...	...	...	...	...	...	...
Gonorrhœal „	1	...	1	...	...	...	...	...	...	...
Rheumatic „	3	...	3	...	...	...	...	...	...	...
Trachoma	4	...	3	...	...	...	...	...	1	...
B. Cornea—										
Keratitis	10	7	9	6	...	...	...	...	1	1
Do. Interstitial	2	1	1	1	...	...	...	...	1	...
Onyx and Hypopyon (50)	3	1	3	1	...	...	...	...	...	...
Ulcers (51)	2	10	2	10	...	...	...	...	...	...
Opacity (52)	5	9	5	9	...	...	...	...	...	...
Conical Cornea (53)	...	1	...	1	...	...	...	...	...	...
Staphyloma (54)	3	3	3	3	...	...	...	...	...	...
Sloughing of Cornea (55)	1	4	1	3	...	1	...	...	...	...
Fistula	...	1	...	1	...	...	...	...	...	...
Herpetic eruption	...	1	...	1	...	...	...	...	...	...
Sarcoma (56)	...	1	...	1	...	...	...	...	...	...
C. Iris—										
Iritis	2	2	2	2	...	...	...	...	...	...
Suppurative Iritis (57)	1	...	1	...	...	...	...	...	...	...
Rheumatic „	1	...	1	...	...	...	...	...	...	...
Syphilitic	6	3	6	3	...	...	...	...	...	...
Atresia Iridis (58)	1	1	1	1	...	...	...	...	...	...
Irido-choroiditis (59)	3	1	2	1	...	...	...	...	1	...
Synechia (60)	2	1	1	1	...	...	...	...	1	...
Sarcoma (61)	...	2	...	2	...	...	...	...	...	...
Occlusion of Pupil (62)	1	...	1	...	...	...	...	...	...	...
D. Crystalline Lens—										
Cataract—										
Hard (63)	19	8	14	8	3	...	...	...	2	...
Soft (64)	3	2	3	1	...	...	...	...	...	1
Traumatic (65)	1	...	1	...	...	...	...	...	...	...
Congenital (66)	2	...	2	...	...	...	...	...	...	...
Opacities of Capsule (67)	1	1	1	1	...	...	...	...	...	...
E. Diseases of the Vitreous—										
Opaque bodies in Vitreous	1	1	...	1	1	...	...	...	...	...
F. Diseases of Retina and Optic Nerve—										
Retinitis Hæmorrhagica	...	1	...	...	...	1	...	...	...	...

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1872.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE EYE (*continued*).										
Diseases of Retina and Optic Nerve (*continued*)—										
Detached Retina (68)	...	2	...	2	...	...	...	...	...	...
Optic Neuritis (69)	2	1	...	...	1	1	...	...	1	...
White Atrophy of Optic Discs	3	2	...	...	3	1	...	...	...	1
G. Diseases of the Choroid—										
Choroiditis (70)	1	1	1	...	...	1	...	...	...	...
H. General Affections of the Eye—										
Glaucoma (71)	4	7	3	6	1	1	...	...	...	...
Sympathetic Ophthalmia (72)	1	1	1	1	...	...	...	...	...	...
Strumous Disease (73)	2	...	2	...	...	...	...	...	...	...
I. Strabismus—										
Internal (74)	3	3	3	2	...	...	...	...	...	1
External (75)	1	...	1	...	...	...	...	...	...	...
J. Diseases of the Lachrymal Apparatus—										
Lachrymal Obstruction (76)	2	3	2	3	...	...	...	...	...	...
Abscess and Fistula (77)	1	3	1	3	...	...	...	...	...	...
K. Diseases of the Eyelids—										
Entropion (78)	...	1	...	1	...	...	...	...	...	...
Ectropion (79)	...	1	...	1	...	...	...	...	...	...
Epithelioma (80)	1	...	1	...	...	...	...	...	...	...
L. Diseases of Cranial Nerves (81)	2	1	2	...	...	...	...	...	...	1
DISEASES OF THE EAR.										
Fibro-cystic Tumour (82)	1	...	1	...	...	...	...	...	...	...
DISEASES OF THE NOSE.										
Epistaxis (83)	2	...	2	...	...	...	...	...	...	...
Chronic Ozæna	...	1	...	1	...	...	...	...	...	...
Polypus (84)	1	2	1	2	...	...	...	...	...	...

TABLE I (*continued*).

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1872.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Diseases of the Circulatory System.										
Aneurism—										
Thoracic Aorta (85)	1	...	...	...	...	...	1	...	...	...
Subclavian Artery (86)	3	1	...	...	2	...	1	...	...	1
Abdominal Aorta (87)	1	2	...	2	...	...	1	...	...	...
Femoral Artery (88)	1	...	...	...	...	...	1	...	...	...
Popliteal Artery (89)	3	1	3	1	...	...	...	...	...	...
Traumatic Aneurism (90)	1	...	1	...	...	...	...	...	...	...
Varicose Veins (91)	3	2	3	2	...	...	...	...	...	...
Thrombosis (92)	3	3	3	3	...	...	...	...	...	...
Secondary Hemorrhage (93)	1	...	1	...	...	...	...	...	...	...
Lymphatic Glands—										
Abscess	3	1	3	1	...	...	...	...	...	...
Hodgkins' Disease	...	1	...	...	...	1	...	...	...	...
Diseases of the Lips.										
Malformations—										
a. Single Harelip (94)	6	10	6	8	...	1	...	...	...	1
b. Double Harelip (95)	1	4	1	4	...	...	...	...	...	...
Papilloma (96)	...	1	...	1	...	...	...	...	...	...
Diseases of Mouth and Cheek.										
Stomatitis	1	...	1	...	...	...	...	...	...	...
Papilloma (97)	1	...	1	...	...	...	...	...	...	...
Diseases of Tongue.										
Gumma (98)	...	1	...	1	...	...	...	...	...	...
Diseases of Jaws.										
Epulis (99)	...	3	...	3	...	...	...	...	...	...
Suppuration in Antrum (100)	...	1	...	1	...	...	...	...	...	...

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1872.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Diseases of Palate and Fauces.										
Enlarged Tonsils (101)	2	1	2	1	...	...	...	...	...	...
Abscess	2	...	2	...	...	...	...	...	...	...
Bifid Uvula	...	2	...	...	...	2	...	...	...	...
Cleft Palate (102)	4	7	4	4	...	2	...	...	...	1
Diseases of Salivary Glands.										
Parotid Glandular Tumour (103)	1	1	1	1	...	...	...	...	...	...
Parotid Fistula (104)	...	1	...	1	...	...	...	...	...	...
Diseases of Œsophagus and Larynx.										
Stricture of Œsophagus (105)	3	1	3	1	...	...	...	...	...	...
Croup (106)	...	1	...	1	...	...	...	...	...	...
Diseases of the Intestines.										
Hernia—										
Umbilical (107)	1	6	1	3	...	...	...	3	...	...
Inguinal (108)	39	4	32	4	2	...	5	...	...	...
Femoral (109)	6	21	6	12	...	...	...	9	...	...
Fæcal Fistulæ (110)	...	2	...	...	...	1	...	1	...	...
Diseases of Rectum and Anus.										
Fistula in Ano (111)	30	15	22	14	3	...	2	...	3	1
Hæmorrhoids—										
Internal (112)	6	4	6	3	...	...	...	...	...	1
External (113)	...	4	...	4	...	...	...	...	...	...
Fissure of Anus (114)	2	1	2	1	...	...	...	...	...	...
Fibrous Stricture (115)	...	3	...	3	...	...	...	...	...	...
Imperforate Anus (116)	...	1	...	1	...	...	...	...	...	...
Recto-vesical Fistula (117)	2	...	2	...	...	...	...	...	...	...

TABLE I (*continued*).

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1872.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF URINARY SYSTEM.										
Cystitis—										
a. Acute	2	...	2	...	...	...	...	...	...	...
b. Chronic (118)	5	2	2	2	2	...	1	...	...	...
Calculus vesicæ—										
a. Uric Acid (119)	12	1	9	1	...	...	...	...	3	...
b. Oxalate of Lime (120)	2	...	1	...	...	...	1	...	...	...
c. Phosphatic (121)	6	...	3	...	...	...	3	...	...	...
Urethral Calculus (122)	2	...	1	...	...	...	1	...	...	...
Symptoms of Calculus (123)	7	...	5	...	...	...	...	...	2	...
Ectropion vesicæ	1	...	...	...	1	...	...	...	...	...
Diseases of Prostate Gland.										
Enlarged Prostate (124)	9	...	8	...	...	...	...	...	1	...
Gonorrhœa and its Complications.										
Gonorrhœa (125)	30	125	30	118	...	...	...	...	...	7
Balanitis	1	...	1	...	...	...	...	...	...	...
Phimosis	11	...	9	...	...	...	...	...	2	...
Paraphimosis	4	...	4	...	...	...	...	...	...	...
Bubo (126)	11	27	10	24	...	...	...	1	1	2
Epididymitis	5	...	5	...	...	...	...	...	...	...
Verrucæ	6	31	6	28	...	...	...	...	...	3
Abscess in Labium	...	3	...	3	...	...	...	...	...	...
Gonorrhœal Rheumatism	...	1	...	1	...	...	...	...	...	...
Diseases of Male Urethra.										
Stricture—										
a. Organic (127)	35	...	27	...	3	...	1	...	4	...
b. Inflammatory (128)	5	...	5	...	...	...	...	...	...	...
c. Traumatic	3	...	3	...	...	...	...	...	...	...
Urinary Fistula (129)	16	...	13	...	1	...	1	...	1	...
Extravasation of Urine (130)	5	...	2	...	...	...	2	...	1	...
Incontinence of Urine (131)	1	1	...	...	1	1	...	...	...	...
Diseases of the Penis and Testis.										
Malformation—										
a. Hypospadias	1	...	...	...	1	...	...	...	...	...

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1872.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF URINARY SYSTEM (*continued*).										
Diseases of the Penis and Testis (continued.)										
Malformation—										
b. Phimosis (132)	19	...	18	...	...	...	1	...	...	...
Paraphimosis (133)	1	...	1	...	...	...	...	...	...	...
Orchitis (134)	2	...	2	...	...	...	...	...	...	...
Hydrocele (135)	14	...	14	...	...	...	...	...	...	...
Varicocele (136)	3	...	2	...	1	...	...	...	...	...
Hydrocele of the Cord	5	...	4	...	1	...	...	...	...	...
DISEASES OF FEMALE ORGANS OF GENERATION.										
Diseases of the Ovary (137)	...	9	...	3	...	2	...	4	...	...
Diseases of the Uterus.										
Polypus (138)	...	3	...	3	...	...	...	...	...	...
Diseases of the Vagina.										
Vesico-Vaginal Fistula (139)	...	5	...	3	...	2	...	...	...	...
Diseases of Vulva.										
Cystic Tumour of Labium (140)	...	2	...	2	...	...	...	...	...	...
Fibro-Cellular Tumour of Labium	...	2	...	1	...	1	...	...	...	...
Vascular Tumour at Orifice of Urethra (141)	...	3	...	1	...	1	...	...	...	1
Affections connected with Parturition.										
Ruptured Perinæum (142)	...	2	...	2	...	...	...	...	...	...
DISEASES OF THE FEMALE BREAST.										
Abscess	...	8	...	8	...	...	...	...	...	...

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1872.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE FEMALE BREAST (*continued.*)										
Non-Malignant Tumours—										
a. Chronic Mammary (143)	...	7	...	4	...	2	...	...	...	1
b. Fibro-cystic (144)	...	3	...	1	...	...	...	1	...	1
c. Simple Cyst (145)	...	1	...	1	...	...	...	...	...	...
DISEASES OF THE ORGANS OF LOCOMOTION.										
Diseases of Bones.										
Periostitis (146)	10	7	10	7	...	...	...	...	...	...
Diffuse Periostitis—										
Acute Necrosis (147)	5	4	3	2	...	...	1	1	1	1
Caries (148)	20	7	15	4	...	1	1	...	4	2
Necrosis (149)	65	25	47	22	5	...	4	...	9	3
Non-Malignant Tumours—										
a. Exostosis (150)	1	4	...	4	1	...	...	...	...	...
b. Enchondroma (151)	2	2	2	1	...	...	...	...	...	1
c. Fibrous (152)	1	...	...	...	...	...	...	...	1	...
False Joint (153)	1	...	1	...	...	...	...	...	...	...
Diseases of Joints.										
Acute Synovitis (154)	16	9	14	8	1	...	...	...	1	1
Chronic do. (155)	45	35	32	29	3	...	...	...	10	6
Ulceration of Cartilage (156)	25	10	14	6	2	...	3	2	6	2
Ankylosis (Fibrous) (157)	6	4	5	2	1	2	...	...	...	...
Loose Cartilage (157*a*)	...	3	...	2	...	1	...	...	...	...
Knock-Knee	4	6	4	6	...	...	...	...	...	...
Diseases of the Spine.										
Caries (158)	4	1	1	...	3	...	...	...	...	1
Psoas, Lumbar, and other Abscesses (159)	6	3	3	3	1	...	2	...	...	...
Angular Curvature (160)	12	15	7	12	3	...	...	...	2	3
Lateral Curvature	1	4	1	4	...	...	...	...	...	...
Spina Bifida	...	2	...	...	...	2	...	...	...	...

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1872.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE ORGANS OF LOCOMOTION (*continued*).										
Diseases of Muscles.										
Non-malignant Tumour (Phantom) [161]	...	1	...	1	...	...	...	...	...	...
Contraction of Tendons, Fasciæ, or Muscles [162]	5	3	4	2	1	...	...	...	...	1
Club-Foot—										
a. Talipes Equinus [163]	3	6	2	5	...	...	...	...	1	1
b. Do. Varus [164]	3	4	3	4	...	...	...	...	...	...
c. Do. Valgus	2	1	2	1	...	...	...	...	...	...
d. Do. Equino-varus [165]	19	10	15	8	...	...	...	...	4	2
Wry-neck [166]	1	1	1	...	...	...	1	...	...	...
Enlarged Bursa Patellæ [167]	...	10	...	10	...	...	...	...	...	...
Enlargement of other Bursæ [168]	2	...	1	...	1	...	...	...	...	...
Inflammation and Suppuration of Bursa Patellæ [169]	10	27	10	26	...	...	...	...	...	1
Do. do. of other Bursæ [170]	4	3	4	2	...	...	...	...	...	...
Bursal Tumour—										
a. Of Bursa Patellæ [171]	...	8	...	8	...	...	...	...	...	...
b. Of other Bursæ [172]	1	...	...	...	...	...	1	...	...	...
Infantile Paralysis	2	4	1	3	1	...	...	...	...	1
DISEASES OF THE CELLULAR TISSUE.										
Abscess [173]	90	65	80	57	...	1	...	...	10	7
Slough [174]	4	1	2	1	...	...	2	...	...	...
Connective Tissue Tumours—										
a. Fatty [175]	7	8	6	6	...	1	1	...	...	1
b. Fibro-cellular [176]	2	8	...	6	2	1	...	...	...	1
c. Recurrent Fibroid [177]	7	2	6	1	...	...	...	1	1	...
d. Sarcoma [178]	2	1	1	1	...	...	...	...	1	...
e. Myxoma [179]	2	1	2	1	...	...	...	...	...	...
Serous Cysts [180]	2	6	...	3	2	2	...	...	...	1
Dermoid Cysts [181]	4	11	4	10	...	...	...	...	...	1
DISEASES OF THE CUTANEOUS SYSTEM.										
Eczema	4	8	4	8	...	...	...	...	...	...

TABLE I (*continued*).

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1872.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Diseases of the Cutaneous System (*continued*).										
Psoriasis	1	3	1	2	...	...	...	...	...	1
Scabies	1	...	1	...	...	...	...	...	...	...
Ulcer [182]	30	32	27	30	...	...	...	...	3	2
Carbuncle	10	4	9	4	...	...	...	...	1	...
Onychia Maligna	2	2	2	2	...	...	...	...	...	...
Whitlow—										
Thecal abscess	3	1	3	1	...	...	...	...	...	...
Gangrene [183]	1	...	...	...	...	...	1	...	...	...
Mole	...	1	...	...	...	...	...	...	...	1
Nævus	3	5	3	5	...	...	...	...	...	...
In-growing Toe-nail [184]	4	2	4	2	...	...	...	...	...	...
Rodent Ulcer [185]	3	...	2	...	...	...	...	...	1	...
General Injuries.										
Burns and Scalds [186]	49	46	29	38	...	...	18	5	2	3
Contusions [187]	29	12	29	12	...	...	...	...	...	...
Local Injuries.										
Injuries of the Head.										
Contusion	3	5	3	5	...	...	...	...	...	...
Scalp Wound [188]	55	18	55	17	...	...	...	...	...	1
Concussion of Brain [189]	58	11	55	11	...	...	...	...	3	...
Fracture of Vault of Skull—										
Compound [190]	9	...	8	...	...	...	1	...	...	...
Fracture of Base of Skull [191]	12	...	3	...	...	...	9	...	...	...
Gunshot Wounds [192]	2	1	1	...	...	...	1	1	...	...
Of the Face.										
Contusion	3	1	3	1	...	...	...	...	...	...
Wound [193]	11	4	10	4	...	...	...	...	1	...
Fracture of Facial Bones [194]	2	...	2	...	...	...	...	...	...	...
Do. Lower Jaw	2	...	2	...	...	...	...	...	...	...
Foreign Body in Ear [195]	2	...	2	...	...	...	...	...	...	...

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1873.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
LOCAL INJURIES (*continued*).										
Injuries of the Eye.										
Wounds of Orbit (196)	4	2	4	2	...	...	...	...	...	...
Contusion of Globe (197).....	2	4	2	2	...	1	...	...	...	1
Burns (198)	2	...	2	...	...	...	...	...	...	...
Wound of Cornea (199)	4	...	4	...	...	...	...	...	...	...
Injuries of the Neck.										
Contusion	1	1	1	1	...	...	...	...	...	...
Wound.....	2	2	2	2	...	...	...	...	...	...
Cut Throat (200)	7	3	7	2	...	...	...	1	...	...
Fracture of Thyroid Cartilage (201)	1	1	1	1	...	...	...	...	...	...
Foreign Body in Œsophagus (202)	...	1	...	1	...	...	...	...	...	...
Injuries of the Chest.										
Contusions (203)	9	6	8	6	...	...	1	...	...	...
Fractured Ribs, Lung not Wounded (204)	20	4	19	4	...	...	1	...	...	...
Do. Lung Wounded (205)...	10	1	5	...	...	...	5	1	...	...
Incised Wound (Stab) (206)...	...	1	...	1	...	...	...	...	...	...
Foreign Body in the Heart(207)	1	...	1	...	...	...	...	...	...	...
Injuries of the Back.										
Contusion (208).....	15	3	15	3	...	...	...	...	...	...
Wound.....	1	1	1	1	...	...	...	...	...	...
Fracture of the Spine (209) ...	5	1	...	...	...	...	5	1	...	...
Injury to Spine, without Fracture (210)	1	...	...	...	...	...	1	...	...	...
Injuries of the Abdomen.										
Contusion (211).....	12	3	10	3	...	...	...	...	2	...
Do. with Rupture of Viscera (212).....	5	...	...	...	...	...	5	...	...	...
Wound of the Parietes (213)...	3	...	2	...	...	...	1	...	...	...

TABLE I (*continued*).

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1872.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
LOCAL INJURIES (*continued*).										
Injuries of the Pelvis.										
Contusion (214)	6	1	5	1	...	...	...	...	1	...
Wound of Scrotum	1	...	1	...	...	...	...	...	...	...
Wound of Vulva	...	3	...	3	...	...	...	...	...	...
Fracture of Pelvis (215)	4	...	4	...	...	...	...	...	...	...
Injuries of the Upper Extremity.										
Contusion (216)	5	...	5	...	...	...	...	...	...	...
Wound—										
Of Arm (217)	4	1	3	1	...	...	...	...	1	...
Of Elbow	1	...	1	...	...	...	...	...	...	...
Of Forearm (218)	6	...	6	...	...	...	...	...	...	...
Of Hand (219)	34	2	31	1	...	...	1	...	2	1
Injuries of Vessels (220)	7	3	7	3	...	...	...	...	...	...
Fracture of—										
Clavicle	8	3	8	3	...	...	...	...	...	...
Scapula (221)	6	...	6	...	...	...	...	...	...	...
Humerus—										
Simple (222)	23	11	22	11	...	...	1	...	...	...
Compound (223)	2	...	2	...	...	...	...	...	...	...
Forearm—										
Simple, &c. (224)	8	4	8	3	...	...	...	1	1	...
Compound (225)	6	1	6	1	...	...	...	...	...	...
Bones of Hand (226)	3	1	3	1	...	...	...	...	...	...
Dislocation of—										
Clavicle (227)	2	2	2	2	...	...	...	...	...	...
Humerus (228)	5	3	3	2	...	...	...	...	2	1
Radus and Ulna (229)	1	1	1	...	...	...	...	...	...	1
Thumb (230)	2	1	2	1	...	...	...	...	...	...
Injuries of Lower Extremities.										
Contusions	32	13	32	13	...	...	...	...	...	...
Sprained Ankle	14	11	14	11	...	...	...	...	...	...
Wounds—										
Of Thigh (231)	10	2	9	2	...	...	...	...	1	...
Over Knee (232)	7	1	7	1	...	...	...	...	...	...
Of Leg (233)	7	1	4	...	...	...	...	...	3	1
Of Foot (234)	12	1	12	1	...	...	...	...	...	...

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1872.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
LOCAL INJURIES (*continued*).										
Injuries of Lower Extremities.										
Wounds (*continued*)—										
Of Knee Joint (235)	3	...	3	...	...	...	...	...	...	...
Foreign Bodies removed (236)	...	3	...	3	...	...	...	...	...	...
Frost Bite (237)	1	...	1	...	...	...	...	...	...	...
Fracture of Femur—										
Simple (238)	69	18	62	18	...	...	1	...	6	...
Compound (239)	3	...	1	...	...	...	1	...	1	...
Fracture of Cervix Femoris (240)	10	12	4	10	...	...	4	1	2	1
Fracture of Patella (241)	20	15	18	13	...	...	...	...	2	2
Do. Comminuted (242)	1	...	...	...	...	...	...	...	1	...
Fracture of both Bones of the Leg—										
Simple (243)	89	30	75	28	...	...	1	1	13	1
Compound (244)	18	9	12	5	...	...	3	1	3	3
Fracture of Tibia alone—										
Simple (245)	22	3	21	3	...	...	...	...	1	...
Fracture of Fibula alone—										
Simple (246)	44	8	39	8	...	...	...	...	5	...
Compound (247)	1	...	...	...	...	...	...	...	1	...
"Pott's Fracture" of Leg (248)	13	2	13	1	...	...	...	...	...	1
Ununited Fracture (249)	1	1	1	1	...	...	...	...	...	...
Dislocations of—										
Hip (250)	6	...	6	...	...	...	...	...	...	...
Patella (251)	...	1	...	1	...	...	...	...	...	...
Knee (252)	1	...	1	...	...	...	...	...	...	...
Astragalus (253)	1	...	1	...	...	...	...	...	...	...
Diseases and Injuries not classified.										
Rupture of Muscle and Tendon (254)	3	1	2	1	...	...	...	...	1	...
Diffused Palmar Ganglion (255)	...	1	...	1	...	...	...	...	...	...
Loss of Nose (256)	1	...	1	...	...	...	...	...	...	...
Unclassified cases (257)	31	18	30	16	...	...	...	...	1	2

ABSTRACT OF TABLE I.

No. of Patients in Surgical Wards at beginning of 1872.		No. of Patients admitted during 1872.		Discharged cured or relieved.		Discharged unrelieved.		Died.		Remaining in at the end of year 1872.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
185	143	1999	1500	1813	1390	72	57	118	59	181	137
328		3499		3203		129		177		318	
3827				3827							

APPENDIX TO TABLE I.

1.—One of the leg, in a female aged 27, who recovered. Two fatal cases; one, a woman, aged 31, of exhaustion, with extensive ulceration of labia and parts around; the other, an infant under 2, with noma.

2.—Of head and face nineteen, of upper extremity two, of lower extremity four; nearly all cases followed injury. Four females, aged respectively 45, 46, 52, and 53, had erysipelas of head and face, and died. A male, aged 26, with retro-pharyngeal abscess and erysipelas of the face, had intercurrent variola, and was removed to the Small Pox Hospital.

3.—About the throat one, of the upper extremity twenty-three, of the lower extremity twenty-eight. In three cases there was extensive sloughing of skin. Three deaths among males; one, aged 54, of acute phlegmonous inflammation of the arm; one, aged 59, of phlegmonous inflammation of the leg; one, aged 65, of acute phlegmonous inflammation of the foot and leg after amputation of the great toe.

4.—Of forehead one, about the lower jaw two, of inguinal region two, of upper extremity sixteen, of lower extremity thirty-six; nearly all cases followed slight injury.

5.—Among females, two deaths; one, aged 22, of pyæmia, following extensive sloughing about the nates; the other, aged 20, of pyæmia, following suppuration of the inguinal glands; a case of chronic pyæmia was not relieved. Among males, one, aged 24, died of pyæmia, following carbuncular inflammation of the legs; the other two cases recovered, the one remaining in the hospital at the end of the year being convalescent.

6.—Occurred in male, aged 36 (patient still under treatment).

7.—Among males, one, aged 24, had hard chancre on the lip, followed by submaxillary bubo; three were operated on for phimosis; several had sequelæ while under treatment. Among females, one, aged 49, had a hard chancre on the lip; several had sequelæ while under treatment.

8.—Among males, one death took place under chloroform in a patient, aged 19, who was about to be operated on. At the post-mortem, extensive fatty disease of the heart was discovered. Five were operated on for phimosis.

9.—Among males, thirteen situated on glans, one on prepuce; two were operated on for phimosis. Among females, one situated on vulva, one in groin, two on the nates.

10.—One occurred in a male infant, 6 months, who died three weeks after admission; the other, in a girl, aged 4, with extensive ulceration about labia and anus, and abundant psoriasis, who died two months after admission.

11.—A male, aged 42, with syphilitic laryngitis, had tracheotomy performed, which nearly proved fatal at the time of operation; artificial respiration was kept up, and he recovered for a time, but ultimately died of exhaustion in three days.

12.—A female, aged 28, with syphilitic disease of rectum and vagina, died of *exhaustion five months* after admission.

13.—Of skull four, of jaw two, of ulna one, of tibia seven.

14.—Ulceration of skin thirty-seven, condylomata 121, rhagades digitorum one, rupia sixteen, psoriasis twelve, erythema one, scaly syphilide seventy, pustular three. One death among males in a patient, aged 38, of extensive rupia. Among females four deaths; one, aged 50, of peritonitis, from perforating ulcer through appendix vermiformis; one, aged 45, of exhaustion, following extensive ulceration about labia and anus; one, aged 27, of amyloid disease; one, aged 28, in convulsions.

15.—Occurred in a female, aged 68, admitted with complete intestinal obstruction; colotomy was performed, followed by death from exhaustion fifteen days after admission.

16.—A male, aged 18, died of exhaustion eight weeks after admission.

17.—Removal of disease in twenty cases; two deaths, one, aged 59, of acute bronchitis; the other, aged 54, of exhaustion, a fortnight after admission. Two cases were too bad to admit of operation, one had erysipelas about the wound, three had profuse recurrent hæmorrhage. One case treated by electrolysis without good result.

18.—Recurrent after removal of breast, glands freely excised.

19.—Occurred in a female, aged 18, who had a large malignant growth at the back of the head, a large portion of which sloughed away. It was growing rapidly when she left the hospital.

20.—An extensive mass of disease, too large for removal, in a woman, aged 36, death from exhaustion two months after admission. In the other cases the disease was removed.

21.—Death from exhaustion took place in a male, aged 66, with large, malignant, and sloughing growth in the neck; the other patient had malignant disease of the larynx.

22.—A large mass of disease was removed from the shoulder, superficial to the joint, in a female, aged 50.

23.—A large, malignant polypus, too large for removal.

24.—Occurred in a male, aged 66, who died of acute erysipelas of head and shoulders, three weeks after admission.

25.—One male, aged 27, underwent the operation of castration, and recovered; the other was too far advanced for removal.

26.—Occurred in a female, aged 64, admitted with intestinal obstruction; colotomy was performed, followed by death from acute bronchitis ten weeks after admission.

27.—Among males, in one, aged 42, the disease involved the lower end of humerus; amputation of the arm in the upper third was performed, followed by death from acute pleurisy on the affected side; secondary deposits were found in the lungs, liver, and kidneys. One, aged 32, had amputation of the thigh, performed for disease of lower end of femur, which proved fatal one month after admission. One, aged 18, recovered after amputation of the thigh for disease involving the tibia. The bones of the forearm were affected in a man, aged 42, who refused to submit to operation. The ethmoid and nasal bones were involved in one, aged 69. Among females, one, aged 60, died of exhaustion, with extensive disease of the antrum; in one, aged 58, the disease involved the femur and was not removed; in two cases the disease involved the upper jaw, neither of which was relieved; in a child, aged 6, the alveolar portion of the lower jaw was affected, and the disease removed with good result.

28.—The case of death occurred in a male, aged 60, in which the disease involved not only the lip, but also the submaxillary glands and surrounding tissues. One patient, aged 42, refused to submit to operation. In the other cases the disease was removed.

29.—In two cases the disease was removed with tbe écraseur, and in two by free excision. In a male, aged 50, the gustatory nerve was divided to relieve the excessive pain, with partial benefit. In the case of a female the disease was too far advanced for removal.

30.—In the male the mucous membrane of the cheek was affected, and in the female the disease had attacked the floor of the mouth.

31.—Small epithelial wart removed.

32.—Death occurred in the case of a man with epithelial stricture of the œsophagus, for which gastrotomy was performed; the operation progressed favorably for a time, but ultimately proved fatal in seven days. At the post-mortem, secondary epithelial deposits were found at the cardiac end of the stomach, the immediate cause of death being acute traumatic peritonitis and diaphragmatic pleurisy on the left side.

33.—In both the disease affected the integument of the leg; it was freely excised and did well after transplantation of skin in each case.

34.—Disease removed.

35.—A case of chimney sweep's cancer; profuse recurrent hæmorrhage took place after removal of disease.

36.—In two cases amputation of the penis was performed; one recovered; the other patient, aged 52, died of acute peritonitis and pericarditis, with ulceration of intestine.

37.—Occurred in a patient, aged 45; clitoridectomy was performed followed by recurrent hæmorrhage, the case afterwards doing well.

38.—Two cases proved fatal from exhaustion.

39.—Occurred in a female, aged 36; the disease was freely excised, but very rapidly returned, and proved fatal three weeks after admission.

40.—Patient was under treatment two days, and died. There was extensive tuberculous disease of brain, with tumour in the cerebellum found at the post-mortem.

41.—Death took place from peritonitis nine weeks after admission.

42.—In five cases castration was performed with good result.

43.—Of the carpus two, of the tarsus four. Syme's amputation was performed in one case with good result. Carious bone removed in one case, and a finger in another. Death occurred in a boy, aged 13, with advanced disease of the tarsus.

44.—Of the sacro-iliac synchondrosis five, of the hip thirty-nine, of the knee fourteen, of the elbow two, of the ankle two, of several joints three. Three deaths; a girl, aged 9, of tubercular meningitis; two males, aged respectively 24 and 35, of amyloid disease. The hip-joint was resected in a female, aged 9, with good result. Amputation of the thigh was performed in a male, aged 9; and Syme's amputation in two males, aged respectively 6 and 19, all with good result.

45.—Exedens three, non-exedens one.

46.—Of the shoulder two, of the hip two.

47.—On outer side of foot; removed.

48.—One of the thigh, after amputation; in another the poplitial nerve was involved; the other was in a male, aged 65, with neuralgic scar after gunshot wound, who died suddenly of heart disease a few days after admission.

49.—Feigned diseases of joints in all cases.

50.—In two cases paracentesis corneæ was performed.

51.—A female, aged 22, had perforating ulcer of the cornea, followed by synechia, for which iridectomy was performed.

52.—In ten cases iridectomy performed; in one a portion of the cornea was removed.

53.—A reparative operation performed.

54.—Four abscissions, one extirpation of the globe, one iridectomy.

55.—One after variola; one after gonorrhœal ophthalmia; extirpation of globe in one; portions of cornea removed in two.

56.—A female, aged 60, admitted with small sarcoma, growing from the anterior portion of the cornea; the globe was removed, followed by severe recurrent hæmorrhage, and recovery.

57.—Occurred in a male, aged 32, and was followed by loss of eye and subsequent extirpation of globe.

58.—Iridectomy in one case, removal of lymph in the other.

59.—Iridectomy in one case.

60.—Iridectomy in one case.

61.—Rapidly growing tumours, one in a child, aged 4; the other in an adult, aged 48. Globe extirpated in both, followed by recovery.

62.—Followed operation for cataract; iridectomy performed.

63.—In ten cases both eyes were affected. Twenty-four extractions, viz. Von Graefe's modified linear extraction in six, Leibriech's in thirteen, other modifications in five; in several cases operations were not considered advisable.

64.—Needle operation in two cases, suction operation in three cases.

65.—Extraction with canular forceps.

66.—In one case both eyes affected, canular forceps used in both.

67.—In both cases removed with canular forceps.

68.—One case occurred after measles; globe extirpated in both instances.

69.—Complicated in one case with amyloid disease.

70.—In a male, aged 64, followed by sloughing and excision of the globe.

71.—Iridectomy in nine, extirpation of the globe in two.

72.—In both cases the eye was removed.

73.—Extirpation of the globe in both cases.

74.—Internal recti divided in all cases.

75.—External rectus divided.

76.—**Canaliculus slit up in all cases.**

77.—**Canaliculus slit up in three cases.**

78.—Reparative operation.

79.—Reparative operation.

80.—Disease removed.

81.—One male, aged 40, still in the hospital, admitted with paralysis of all the cranial nerves, except the eighth and ninth. A male, aged 25, and a female, aged 40, had paralysis of third nerve.

82.—Removed from a male, aged 25.

83.—In both cases the nostrils were plugged.

84.—Removed in all cases.

85.—Occurred in a male, aged 35, and terminated fatally three months after admission.

86.—Terminated fatally in the case of a male, aged 39, by bursting into the left pleura, five months after admission. A male, aged 36, was twice under treatment without benefit.

87.—A male, aged 33, died from rupture of the aneurism into the peritoneum two days after admission. A female, aged 30, was twice under treatment; on the first occasion continual pressure with the abdominal tourniquet was kept up five and a half hours, under chloroform, with doubtful result; but after the second admission the aneurism underwent almost complete spontaneous cure.

88.—Occurred in a male, aged 72, and was treated by pressure with a tourniquet, which was followed by suppuration of and about the sac, thrombosis of femoral vein, and death.

89.—Two cases cured by pressure, the other two by ligature of the femoral artery in Scarpa's space. One of the cases was a woman, aged 30, with large and exceedingly painful aneurism; digital pressure and tourniquet were applied without avail; the femoral artery was afterwards ligatured, and the wound treated on the antiseptic principle with excellent result.

90.—Occurred in the radial artery of a boy, aged 10; the vessel was ligatured with good result.

91.—Two cases treated by application of Vienna paste. In two cases there was severe hæmorrhage at time of admission.

92.—Of the femoral vein two, of saphena vein four.

93.—Occurred in an out-patient, after removal of a small neuroma from the finger.

94.—Fifteen operations, all with good results.

95.—All operated on with good results.

96.—A small growth, which was removed.

97.—Treated successfully with nitric acid.

98.—Removed by excision.

99.—Removed in all cases.

100.—Pus evacuated.

101.—Removed in all cases.

102.—Of hard and soft six, of soft only, five; nine operations performed, one of which, in a female, aged 19, was not successful.

103.—Removed in both cases.

104.—Occurred in a female, aged 18, who underwent a reparative operation with partial success.

105.—Two cases occurred after swallowing nitric acid, and another, which was spasmodic, was due to the presence of a piece of meat. Two were relieved by bougies.

106.—Occurred in a child, aged 6; tracheotomy was performed with complete success.

107.—One underwent spontaneous reduction; one reduced by taxis. Five were operated on; two recovered; a female, aged 56, died of exhaustion within twenty-four hours; another, aged 58, required a second incision after re-strangulation, and died on the third day. In a female, aged 44, the contents of the sac had begun to slough before admission, and proved fatal two days after operation.

108.—Two underwent spontaneous reduction; twenty-three were reduced by taxis, with one death from exhaustion, in a male, aged 70, three days afterwards. Sixteen underwent operation; in seven sac not opened; six recovered; one death in a male, aged 53, the operation being followed by recurrent hæmorrhage, sloughing of scrotum and diarrhœa. In nine sac opened; six recovered; three deaths, two males, aged 68 and 72 respectively, on the day of operation; and another, aged 49, of acute peritonitis from ulceration through the appendix vermiformis three days after operation. Two large irreducible herniæ were not relieved.

109.—Two were reducible on admission; nine were reduced by taxis. Sixteen operations; in seven the sac not opened; five recovered; two deaths, a female, aged 83, of entero-peritonitis, eighteen days after operation, and a female, aged 57, of acute bronchitis and emphysema, a week after admission. In nine the sac opened, two recovered; seven deaths, all of acute peritonitis.

110.—One occurred in a female, aged 51, and followed an abscess in the left groin. The other was in a female, aged 23, who died of phthisis ten days after admission; the fistula was in the left loin, and resulted from ulceration caused by the escape of a calculus from the kidney, a portion of which was found after death in the subperitoneal tissue.

111.—Thirty-seven divided; one case treated by threads; three cases not relieved; two deaths in males, aged respectively 23 and 57, both of phthisis.

112.—Seven ligatured, one excised.

113.—All ligatured.

114.—Divided in all.

115.—In one case the stricture was freely divided, in the other two bougies were used.

116.—Occurred in a female, aged 3 months, in whom there was recto-vaginal fistula; an operation for the radical cure was performed with good result.

117.—Both after lithotomy. In one the fistula cauterized by galvanic cautery with partial success, in the other a reparative operation performed with excellent result.

118.—A male, aged 49, died of exhaustion two months after admission.

119.—In eleven cases lithotomy performed. In a boy, aged 2, the stone escaped after *passing* a sound. In a female, aged 30, the calculus was extracted by urethral *dilatation*.

120.—In both cases lithotomy performed. In a male, aged 19, after removal of the calculus death resulted from thrombosis of the external iliac and femoral veins, and consequent gangrene of the leg, three weeks after admission.

121.—In two cases lithotomy performed; in one patient, aged 57, followed by cystitis, peritonitis, suppuration of both kidneys, and death; in four cases lithotrity, two deaths, both fatal by cystitis and exhaustion.

122.—Both extracted with forceps. In the case of a boy, aged 10, the calculus had produced complete retention of urine and distension of the bladder to the umbilicus; death resulted from acute peritonitis and cystitis six days after admission.

123.—All these cases were admitted with many of the symptoms of stone in the bladder. They were sounded, but in no instance was a calculus detected.

124.—Seven admitted with retention of urine, one with symptoms of stone, one with hæmaturia.

125.—Among males two had retention, one cystitis, one fistula in ano.

126.—Death occurred in a female, aged 20, with extensive suppuration of the inguinal glands, followed by pyæmia.

127.—Ten admitted with retention. In one case the stricture followed amputation of the penis two years previously. One, aged 62, died of Bright's disease.

128.—All admitted with retention.

129.—One death occurred in a male, aged 54, and was complicated with cystitis and pyelitis; he died ultimately of acute catarrhal laryngitis three months after admission.

130.—Two deaths, one in five weeks, the other in five days, in both cases of exhaustion after extensive sloughing of scrotum.

131.—In both cases followed the extraction of calculus; one after lithotomy, the other after dilatation of the urethra.

132.—In all cases circumcision performed. A male, aged 29, was admitted for operation. Circumcision was done successfully under chloroform, followed by excessive and continual vomiting, which proved fatal the next day.

133.—Reduced after needle puncture.

134.—Both traumatic.

135.—In nine cases the radical cure by the injection of iodine was performed; the others were tapped.

136.—Radical cure in two cases.

137.—Ovariotomy was performed in four cases; two, aged respectively 24 and 25, recovered. Two, aged respectively 28 and 31, died, in both cases of peritonitis two days after operation. One, aged 48, died of syphilitic meningitis, and another, aged 31, of exhaustion, neither case admitting of operation. In one case paracentesis was performed with temporary benefit.

138.—In all cases removed.

139.—Three cured by operation, one refused operation, the other not relieved.

140.—Both incised, one removed by operation.

141.—One removed with gas cautery.

142.—Cured by operation.

143.—Four removed by operation, two refused treatment.

144.—Removed in two cases. In a female, aged 58, the growth advanced with such rapidity that an operation was not thought advisable; death from pleurisy and exhaustion six days after admission.

145.—Removed.

146.—Of lower jaw one, of ulna two, of radius one, of femur three, of tibia ten.

147.—Of temporal bone one, of femur one, of fibula one, of tibia six. Among males one, aged 12, required amputation of the thigh for disease involving the shaft and upper epiphysis of the tibia and knee-joint, and recovered; one, aged 22, was admitted with acute necrosis of the whole shaft of the femur, amputation at the hip-joint was performed with excellent result; one, aged 11, admitted with acute necrosis of the tibia and pyæmia, died two days after admission. Among females, one, aged 11, with necrosis of the fibula, had pyæmia (still under treatment); one, aged 23, admitted with acute inflammation of the internal ear, following a prick with a pin, had acute necrosis of the temporal bone, followed by acute meningitis and cerebral abscess, which proved fatal sixteen days after injury. In several cases sequestra were removed.

148.—Of carpus one, of radius one, of olecranon two, of pelvis one, of femur five, of tibia three, of tarsus and metatarsus fourteen. Among males, one, aged 35, with disease of the tarsus, had Syme's amputation of the foot performed; one, aged 19, with extensive disease of the pelvis and profuse suppuration, died of exhaustion a month after admission. Among females, one, aged 21, had amputation of the leg performed, and another, Syme's amputation of the foot performed, for disease of the tarsus; one, aged 10, had the os calcis excised with good result. In several cases carious bone was removed.

149.—Of malar bone one, of superior maxilla three, of inferior maxilla nine, of humerus seven, of carpus, metacarpus and phalanges twenty-three, of manubrium sterni two, of sacrum one, of innominate bone one, of femur twelve, of tibia twenty-two, of fibula one, of tarsus, metatarsus, and phalanges eight. Among males four deaths, one, aged 33, with long-standing necrosis of the lower jaw, of amyloid disease of abdominal viscera; two, aged respectively 32 and 38, with necrosis of the femur, one of exhaustion, the other of pyæmia; one, aged 35, admitted with necrosis of one of the phalanges of a finger and acute inflammation of the hand, died suddenly of heart disease two days after admission; one, aged 29, had amputation of the thigh performed for a small loose sequestrum found afterwards in the internal condyle of the femur, and recovered; one, aged 11, had amputation of the leg performed for necrosis of the tibia, and recovered; one, aged 41, had excision of the wrist-joint performed with good result; in six cases amputations of fingers and toes were done. Among females, one, aged 52, had acute phlegmonous inflammation of the hand and forearm, following amputation of the thumb for necrosis of the inguinal phalanx; three cases required amputation of fingers. Forty-eight operations were performed for the removal of sequestra.

150.—Of the femur three, of the humerus one, of ungual phalanx of great toe one; all removed with one exception, in which the growth was situated so close to the knee-joint that it was not considered advisable to operate.

151.—Of lower jaw one, of phalanx of finger one, of thumb one, of metacarpal bone one; all removed.

152.—Occurred in a male, aged 27, who was admitted with a hemi-spheroidal tumour, probably of fibrous nature, growing forwards apparently from the external table of the frontal bone, and pressing backwards on to the brain, producing frequent epileptiform fits (still under treatment).

153.—Occurred in a male, aged 17, and followed the removal of the whole shaft of the tibia for necrosis; the operation of pegging the ends of the bones with ivory was performed with partial success.

154.—Of sterno-clavicular joint one, of hip-joint two, of knee twenty-one, of ankle one; fifteen cases were the result of injury.

155.—Of shoulder two, of elbow one, of wrist four, of hip five, of knee sixty-three, of ankle five. A female, aged 19, had intercurrent scarlatina, and recovered. A male, aged 19, had also a large abscess over the tibia, which was incised.

156.—Of shoulder one, of elbow one, of wrist one, of metacarpo-phalangeal joint one, of hip two, of knee twenty, of ankle seven, of calcaneo-astragaloid one, of metatarso-phalangeal one. Among males amputation of the thigh was performed in seven cases, followed by recovery in six; in one, aged 35, necrosis of the upper half of the femur, with very profuse suppuration among the muscles, followed the operation, and ultimately proved fatal; amputation of the leg was performed in one, aged 64, with good result; Syme's amputation of the foot was performed in two cases, with success in one and death from Bright's disease in the other; amputation of the forearm was performed in one, aged 55, with good result; resection of the knee-joint was done in four cases, with success in three, and subsequent amputation of the thigh in the other, a child, aged 4; the metatarso-phalangeal joint of the great toe was excised with success in one, aged 50; the other death occurred in a child, aged 5, with long-standing hip disease, which proved fatal eighteen months after admission. Among females excision of the head of the femur was performed in a patient, aged 26, who had been under treatment for nearly two years, but ultimately proved fatal; resection of the knee-joint was done successfully in a child, aged 7, amputation of the thigh in one, aged 25, Syme's amputation of the foot in a child, aged 5, and a modification of Syme's amputation in a girl, aged 19, were followed by excellent results; the other death occurred in woman, aged 42, of pyæmia, following disease of the knee.

157.—Of jaw one, of shoulder one, of elbow three, of finger one, of hip two, of knee two, of coccyx one. In four cases forcible flexion was done, with good result in all. In a female, aged 32, the coccyx was removed successfully.

157*a*.—In all, cases of the knee. A girl, aged 19, was twice under treatment, and underwent the operation of removal of the cartilage into the subcutaneous cellular tissue of the knee, where it afterwards became absorbed, and she recovered.

158.—Of cervical vertebræ one, of upper dorsal one, of lumbar three.

159.—All connected with disease of the spine. Two males, aged respectively 34 and 57, died of exhaustion, the former one month and the latter two months after admission.

160.—Five complicated with psoas and lumbar abscesses, one with hip disease, one with disease of knee-joint, one with partial paralysis of right leg, one with amyloid disease. Several were supplied with supports.

161.—Of rectus abdominis muscle.

162.—Of the flexors of both extremities three, of hamstring muscles one, of flexors of the toes four. In two cases amputation of the toe and in two tenotomy were performed with benefit.

163.—Tenotomy in eight cases.

164.—Tenotomy in four cases.

165.—Tenotomy in twelve cases.

166.—Tenotomy of sterno-mastoid tendon in a boy, aged 14. In a girl, aged 9, the deformity followed a scald, and did not admit of operation.

167.—Six treated by puncture and pressure, one by strapping, and three by local applications.

168.—One of bursa over head of tibia, treated successfully by incision and pressure. The other was of the bursa under semi-membranosis, and communicated with the knee-joint.

169.—Twenty treated by free incision, followed in one case by diffuse cellulitis.

170.—Of bursa over olecranon five, of bursa beneath semi-membranosis one, of bursa over great toe one; all treated by incision.

171.—All removed.

172.—Situated on the shoulder of a male, aged 60; bursa removed; death from pyæmia.

173.—Of face and jaws eight, about neck sixteen, of upper extremity six, of axilla eleven, about thorax nine, of abdominal wall and back eight, of pelvis twelve, of glutea region ten, of ischio-rectal fossa seventeen, of perinæum three, of labium two, of spermatic cord one, of lower extremity fifty-two.

174.—Two fatal cases among males; one, aged 73, after considerable sloughing of integument of leg, following accident; the other, aged 40, of exhaustion, following extensive sloughing of tissues about the neck. In a female, aged 20, amputation through the metatarsus was performed for extensive sloughing of foot after scald.

175—Of neck one, of axilla one, of shoulder seven, of lumbar region one, over ilium one, of gluteal region two, of thigh two; all removed except one. A male, aged 46, with large pendulous fatty tumour growing from the front wall of the axilla, died of intestinal obstruction eight days after its successful removal.

176.—Of head and face three, of forearm one, of thoracic wall one, of male mamma one, of abdominal wall one, of labium minus one, of thigh one, great hypertrophy of connective tissue of pubes and scrotum one. Six were removed by operation.

177.—Of forearm one, of axilla one, of back four, of knee two. In a male, aged 51, several operations have been performed during the last four years, for a large recurrent mass in the lumbar region; this year the treatment has been principally by electrolysis; when finally discharged the tumour was growing rapidly. Amputation of the thigh was performed successfully for a large tumour, on the inner side of the knee, in a male, aged 34. A large growth over the knee, in a male, aged 64, was treated with partial success by electrolysis. A female, aged 61, died of exhaustion three months following the removal of a large tumour.

178.—A male, aged 56, was admitted with a large ossifying sarcoma of the thigh, growing from the subcutaneous tissue in Scarpa's space; the tumour was removed by free excision, but returned a few months afterwards; it was again removed, and he still remains under treatment, the growth once more returning. A female, aged 17, was admitted with a large soft sarcoma growing among the extensor muscles of the thigh; the tumour was removed, but rapidly recurred; amputation of the thigh in the upper third was afterwards performed, the patient doing well at the end of the year.

179.—A male, aged 50, had a large myxoma removed from Scarpa's space; he did *well, and* was apparently cured; in a few months the tumour recurred, and was again *successfully* removed, and he recovered. A female, aged 28, had a large growth removed *from Scarpa's* space; after the operation she had intercurrent scarlatina, and recovered.

180.—Of neck three, of antrum one, of lower extremity two, congenital cyst (hygroma) of neck one, of right leg and thigh one. In four cases the fluid was evacuated.

181.—Of scalp six, over orbit six, of sublingual space one, of forearm one, over trochanter major one; all were successfully removed.

182.—In several cases transplantation of skin was done with good result. A male, aged 33, had amputation of the leg performed for circular ulcer, and recovered. A male, aged 30, had re-amputation of the leg successfully performed for ulcerated and painful stump.

183.—Of the leg, occurred in a male, aged 39, due to embolism of femoral artery; morbus cordis; fatal a week after admission.

184.—Removed in all cases.

185.—One case twice under treatment; great benefit resulted from the repeated application of the actual cautery. The other case was complicated with erysipelas of the face, and did well.

186.—Forty-three burns; fourteen deaths, within twenty-four hours five, within one week three, within one month six. Fifty-two scalds; nine deaths, within twenty-four hours three, within one week three, within one month three. Four children, two males and two females, had tracheotomy performed, in all cases for scald of the glottis; one recovered, the others died. A female, aged 17, had extensive sloughing of the arm, for which amputation was performed.

187.—All these cases were minor injuries, in which the locality was not specified.

188.—Among males nine had erysipelas of head and face, one had profuse secondary hæmorrhage, two had delirium tremens. In several cases the bone was exposed. There was no erysipelas among the females.

189.—Among males five had epileptiform convulsions, one had fractured ribs, several had contusions and lacerations. Among females one had lacerated scalp followed by erysipelas of head and face, one had albuminuria.

190.—The case of death was of a child, aged 2, with depressed fracture of right parietal bone, followed by meningitis. The parietal bones were fractured in five cases, and the frontal in three. In one case there was a compound fracture of the humerus.

191.—Death within twenty-four hours, five. In a male, who lived four days, the fracture was across the lateral sinus. A male, aged 33, had acute erysipelas of head and face, and died six days after admission. In the three cases of recovery all had hæmorrhage from the ear, two had facial paralysis.

192.—One male, aged 25, attempted suicide; two bullets were extracted from the forehead, and he recovered. One male, aged 26, shot himself through the head with a revolver; the bullet passed through the brain and proved fatal within twenty-four hours. A female, aged 22, had two revolver wounds of the head; one bullet was extracted from the left antrum, the other was found after death lodged in the body of the sphenoid, where it had set up caries of the bone, followed by acute cerebro-spinal meningitis, which proved fatal six weeks after admission.

193.—One male and three females had erysipelas of the face.

194.—Both were fractures of the upper jaw.

195.—A pea was extracted in one case, and a small worm in the other.

196.—In all cases the wounds were of minor importance.

197.—In three cases there was hæmorrhage into the anterior chamber. A female, aged 14, had temporary paralysis of levatores palpebrarum and inferior recti.

198.—Of the eyelids in both cases; one with a hot poker, the other with molten metal.

199.—In one male, aged 22, iridectomy was afterwards performed for anterior synechia. In the other three cases there was protrusion of the iris; two recovered with fair amount of vision, the other had the globe removed.

200.—In six cases the wound was superficial. In a male, aged 31, the larynx and pharynx were laid freely open, in spite of which he made an excellent recovery; he was again admitted a few months afterwards, having again torn open the wound. A woman, aged 31, died of exhaustion three weeks after admission.

201.—A male, aged 30, had a simple linear oblique fracture through the cartilage, followed by aphonia, which slowly passed off. In a female, aged 51, with depressed fracture of the cartilage, there was very urgent dyspnœa, which nearly proved fatal.

202.—A set of false teeth was extracted.

203.—The case of death was a male, aged 78, the injury proving fatal three months after admission.

204.—Several had bronchitis, one had traumatic pleurisy, and another acute rheumatism and pericarditis. One male, aged 44, died of delirium tremens a week after admission.

205.—A female, aged 10, died while being carried into the ward. Among deaths in males one had fracture of the skull, the others severe injuries to the thoracic and abdominal viscera. Two had hæmoptysis, and three pneumothorax and emphysema.

206.—There was slight emphysema about the wound.

207.—A needle was removed successfully from the heart of a male, aged 31 (case recorded in 'Hospital Reports').

208.—A female, aged 20, had hæmaturia for a few days following a kick over the kidney.

209.—Of the cervical region five, of the lumbar one. Death within two days one, within a week two, within two weeks two. Spinal cord severely injured in all. A male, aged 35, lived for nine months, and died ultimately of exhaustion.

210.—This patient, a male, aged 26, was admitted with hemiplegia after a fall from a fire-escape. The paralysis extended, and extensive softening of the brain was discovered after death, which occurred six weeks after admission.

211.—One male had hæmaturia, and another bronchitis. A woman, aged 25, was pregnant.

212.—Of the small intestine three, of several of the viscera two. All fatal within a week.

213.—The case of death was a male, aged 30, who was stabbed in the abdomen, the wound proving fatal within twenty-four hours.

214.—Two of the males had hæmaturia, one male had severe contusion of the perinæum followed by extravasation of urine.

215.—Of the crest of the ilium one, of the anterior superior spine two, of the *pelvis one.*

216.—All minor injuries.

217.—A male, aged 42, had primary amputation performed at the shoulder-joint for severe smash of the upper extremity. Two males had primary amputation, and one secondary amputation of the arm in the upper third; in all cases for machinery accidents; all did well.

218.—One had diffuse cellulitis and delirium tremens. In two cases primary amputation of the forearm was necessary.

219.—A male, aged 35, died of tetanus following a contused and lacerated hand. There were sixteen cases requiring primary amputation of the fingers, and one case of secondary amputation; primary amputation through metacarpus in one, primary amputation of forearm in two; two cases of acute cellulitis; extensive sloughing in two. A male, aged 22, after wound of the palm with a gimlet, had phlegmonous inflammation of the whole arm, with intense pyrexia, which nearly proved fatal.

220.—Of the brachial artery one, of the profunda one, of radial and ulna one, of the radial four, of the ulna one, of basilar vein one; all ligatured.

221.—One complicated with fracture of the clavicle.

222.—One male, aged 64, had severe contusions and acute bronchitis, which proved fatal three weeks after admission. Of anatomical neck three, of surgical neck three. Three had fractures of the forearm, another fractured ribs, and a fourth concussion of the brain.

223.—A male, aged 48, had compound fracture of the internal condyle, with dislocation of radius and ulna backwards. In the other case the fracture was in the upper third.

224.—Of the ulna two, of olecranon one, of radius five, of both bones five; one case complicated with injury to the perinæum. A woman, aged 81, died of exhaustion one week after admission.

225.—Of olecranon one, of radius two, of both bones four. Primary amputation was performed in a male, aged 22; there was secondary hæmorrhage, followed by recovery.

226.—Of the metacarpal bones three cases, two of which were compound, the other was of the phalanges.

227.—Of the sternal end one, of the acromial end three; in one case there were fractures of several ribs.

228.—Into the axilla in six cases; subcoracoid in two; in five cases reduction was easy; in three cases of old dislocation the pulleys were used, with partial success in two.

229.—In one case the dislocation was backwards and outwards; the other was complicated with fracture of the coronoid process.

230.—A male, aged 56, had traumatic gangrene following a compound dislocation; the other cases were simple.

231.—A male, aged 16, had a large abscess and synovitis of the knee following an incised wound near the joint, with a chisel; a male, aged 22, had a large splinter of wood removed from the seat of injury; a male, aged 17, had a pistol wound of the thigh near the femoral artery, the bullet was afterwards removed.

232.—One had synovitis of the knee-joint, two had diffuse cellulitis.

233.—Among males one, aged 40, had acute phlegmonous inflammation of leg and thigh, which nearly proved fatal; one, aged 10, had cellulitis; two had considerable sloughing of the integument; one had delirium tremens.

234.—A female, aged 36, had cellulitis, following an incised wound with broken glass. In six cases primary amputation of the toes was performed, in one followed by gangrene of the remaining portion of second toe; in one case primary amputation through the metatarsus was done.

235.—A boy, aged 7, had his leg torn off at the knee-joint by machinery, for which a primary amputation was performed; a man, aged 31, had wound of the knee-joint with a nail; a boy, aged 12, had considerable swelling of the knee, following punctured wound of the joint with a needle.

236.—Three needles removed, one from the knee, two from the feet.

237.—Of the toes, followed by sloughing of the integument at the extremities.

238.—Among males one, aged 73, had also a fracture of the arm, the injuries proving fatal in sixteen days; several cases complicated with acute synovitis of the knee; in a patient, aged 58, the union was delayed several months; in two cases there was separation of the lower epiphysis from the shaft; a patient, aged 18, had separation of the epiphysis from the shaft, with great displacement, gangrene of the leg and foot set in from pressure on the principal vessels and nerves, for which secondary amputation of the thigh was performed, with excellent result. Among females the fracture was comminuted in a patient, aged 71; there was separation of the epiphysis from the shaft in a child, aged 6.

239.—A male, aged 60, had also a wound of the knee-joint, and died of exhaustion in three weeks; a male, aged 38, still under treatment, and doing well; in a male, aged 38, the fracture involved the knee-joint.

240.—Among males three died of exhaustion and 'one of Bright's disease; two of the fractures were extra-capsular, and the rest intra-capsular. Among females one, aged 79, died three days after admission; two of the fractures were extra-capsular, and the others intra-capsular.

241.—In two cases the patella was fractured a second time; one was complicated by acute inflammation of the bursa patellæ.

242.—This occurred to a man, aged 45, and was complicated with fracture of the humerus.

243.—Among males one, aged 70, had extensive sloughing of integument of the leg, which proved fatal five weeks after admission; one, aged 33, had chronic disease of the knee-joint; a child, aged 9, had a green-stick fracture; several were complicated with severe contusions and lacerations. Among females one, aged 69, had fractures of both legs, which proved fatal thirteen days after admission; two had lacerated scalp wounds; one had chronic disease of the knee-joint; several of these fractures were comminuted.

244.—Among males three cases were admitted with compound and comminuted fractures of both legs; one had primary amputation of both thighs; all proved fatal, two within twenty-four hours, and the other in three days; one, aged 24, had primary amputation of the thigh, and recovered; one had acute synovitis of the knee; in a man, aged 51, the fracture was simple on admission, but subsequently became compound. Among females one, aged 62, had also an intra-capsular fracture of the femur, the injuries proving fatal in eight days.

245.—A male, aged 41, had delirium tremens.

246.—A male, aged 23, had also a fracture of the anterior superior spine of the *ilium*.

247.—Occurred in a male, aged 18.

248.—In a male, aged 64, the fracture was in part compound, there being a wound over the internal malleolus, exposing the bone; he made a perfect recovery in nine weeks.

249.—One of the tibia and fibula, in a male, aged 50; the other, in a female, aged 12, was a congenital intra-uterine fracture of both bones of the leg, for which a special apparatus was adapted with considerable benefit.

250.—Five on to the dorsum ilii, one into the sciatic notch; all reduced easily under chloroform; one occurred spontaneously after rheumatism.

251.—An old case of dislocation, partially benefited by treatment.

252.—The tibia was dislocated backwards and inwards, with rupture of the crucial and internal lateral ligaments; reduced easily.

253.—The astragalus was dislocated outwards and forwards; reduced easily.

254.—Of rectus femoris muscle two, of ligamentum patellæ two.

255.—Treated successfully by incision and antiseptic dressing.

256.—Occurred in a male, aged 33, of lupoid ulceration, following accident, which resulted in the complete destruction of the nose; a plastic operation for new nose was performed with complete success.

257.—Several were admitted for artificial limbs after amputation.

TABLE II.

Complete Cases of the Year, according to Diseases and Ages.

DISEASES.	Under 5 yrs.		5–10.		10–15.		15–25.		25–35.		35–45.		45–55.		55–65.		65–75.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
General Diseases.																				
Phagedæna	...	1	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	..	...	3
Erysipelas—																				
a. Simple	...	1	1	1	1	...	2	3	4	2	1	1	...	6	1	1	...	...	10	15
b. Phlegmonous	1	...	3	...	1	...	7	1	9	...	11	1	8	3	3	1	2	1	45	7
c. Diffuse Inflammation	...	1	1	...	8	...	8	7	7	4	8	4	4	2	...	2	...	1	36	21
Pyæmia	...	...	...	...	...	...	1	2	2	...	...	1	...	...	...	..	...	...	3	3
Farcy	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...
Syphilis—																				
A. Primary Syphilis—																				
Hard Chancre	...	...	...	...	...	...	27	10	5	...	3	...	...	1	...	...	...	...	34	11
Indurated Bubo	...	...	...	...	...	...	4	1	...	...	...	...	...	...	...	...	...	...	4	1
Soft Chancre	..	...	...	...	...	...	35	61	9	9	2	3	1	1	...	...	...	...	47	74
Phagedænic Sore	...	...	...	...	...	...	9	3	3	1	2	...	...	...	...	...	...	...	14	4
B. Hereditary Syphilis	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
C. Secondary Syphilis																				
Local Syphilitic Affections—																				
Brain	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...
Face	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	1	...	...	1	2
Tongue	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	2	...
Pharynx	...	...	...	...	...	...	...	2	2	1	...	1	...	...	...	...	...	...	2	4
Larynx	...	...	...	...	...	...	...	1	...	2	2	1	...	...	...	...	...	...	2	4
Rectum	...	...	...	...	...	...	...	...	...	3	...	..	...	...	...	...	...	...	...	3
Testicle	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	2	...
Bone	...	...	..	...	...	...	...	5	1	1	5	1	...	1	...	...	...	...	6	8
Skin	...	...	...	...	...	...	18	186	16	20	7	6	6	4	...	4	...	...	57	220
Cancer—																				
A. Scirrhous—																				
Intestine	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Rectum	...	...	...	...	...	...	3	...	2	...	...	...	1	...	...	...	2	6	2	
Female Breast	...	...	...	...	...	...	...	...	...	1	...	12	...	8	...	2	...	1	...	24
Lymphatic Glands	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1	...	...	...	3
B. Medullary—																				
Scalp	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Breast	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	1	...	...	...	3
Neck	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	1	1
Shoulder	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Nostril	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Prostate	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
Testis	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	2	...
Uterus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1

DISEASES.	Under 5 yrs.		5–10.		10–15.		15–25.		25–35.		35–45.		45–55.		55–65.		65–75.		TOTAL.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
GENERAL DISEASES. (*continued*).																				
Cancer—																				
B. Medullary—																				
Bone	...	...	...	1	...	...	1	...	3	1	...	...	...	...	...	3	1	...	5	5
Bladder	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...
C. Epithelial Cancer—																				
Lip	...	...	...	...	...	...	...	...	...	...	4	...	2	...	4	...	3	...	13	...
Tongue	...	...	...	...	...	...	...	...	...	...	...	...	3	...	2	...	...	1	5	1
Mouth	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	1	1
Nose	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Œsophagus	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	2	...
Leg	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	2
Anus	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Penis	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	1	...	3	...
Scrotum	...	...	...	..	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...
Clitoris	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Vagina and Labia	...	...	...	...	...	...	...	...	...	1	...	1	...	1	...	1	...	...	...	4
D. Melanotic Cancer—																				
Axilla	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Scrofula—																				
Lymphatic Glands	1	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	1	2
Brain	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Intestine and Lungs	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	1	1
Rectum	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...
Testicle	...	...	1	...	...	...	1	...	4	...	2	...	1	...	...	...	...	...	9	...
Bone	...	...	...	3	2	...	1	...	...	...	...	...	...	...	...	...	...	...	3	3
Joints	2	4	12	14	4	5	8	5	8	3	1	...	...	...	...	...	...	...	35	31
Lupus	...	...	...	...	2	...	1	...	...	...	...	...	1	...	...	...	...	...	4	...
Chronic Rheumatic Arthritis	...	...	...	...	...	...	1	...	...	...	...	2	...	...	...	...	1	...	2	2
Cretinism	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...
DISEASES OF NERVOUS SYSTEM.																				
Meningocele	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Neuroma	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Neuralgic Scar	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	1	...	3	...
Hysteria	...	...	...	...	...	1	...	2	...	2	...	...	...	...	...	...	...	...	...	5
DISEASES OF THE EYE.																				
Conjunctiva	1	3	2	1	2	1	1	1	6	1	1	1	2	...	...	...	...	1	15	9
Cornea	...	5	6	9	7	7	6	10	3	1	3	1	...	1	1	1	...	...	26	35
Iris	...	1	1	...	1	...	1	5	8	1	3	2	2	1	...	1	...	...	16	11
Crystalline Lens	...	...	...	...	1	1	2	1	6	...	6	...	3	...	5	3	3	4	26	...

TABLE II (*continued*).

DISEASES.	Under 5 yrs.		5–10.		10–15.		15–25.		25–35.		35–45.		45–55.		55–65.		65–75.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Diseases of the Eye (*continued*).																				
Vitreous Body	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	1	1
General Affections of the Eye	...	...	2	...	...	...	2	1	1	...	1	...	2	3	...	4	...	...	8	8
Strabismus	...	2	1	...	2	...	...	2	...	...	1	...	...	...	...	...	...	...	4	3
Lachrymal Apparatus	...	1	...	1	2	...	...	2	...	2	1	...	...	...	...	...	...	...	3	6
Eyelids	...	...	...	1	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1	2
Cranial Nerves	...	...	...	...	...	...	...	...	2	...	...	1	...	...	...	...	...	...	2	1
Retina and Optic Nerve	...	2	...	1	...	1	1	...	1	...	2	2	1	...	...	...	...	...	5	6
Choroid	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	1	1
Diseases of the Ear.																				
Fibro-cystic Tumour	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...
Diseases of the Nose.																				
Epistaxis	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	2	...
Ozæna	...	..	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Polypus	...	...	..	...	...	1	1	...	...	1	...	...	...	...	...	...	...	...	1	2
Diseases of the Circulatory System.																				
Thoracic Aorta	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...
Subclavian Artery	...	...	...	...	...	...	...	...	...	...	3	1	...	...	...	...	...	...	3	1
Abdominal Aorta	...	...	...	...	...	...	...	...	1	2	...	...	...	...	...	...	...	...	1	2
Femoral Artery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
Popliteal	...	...	...	...	...	...	...	...	3	1	...	...	...	...	...	...	...	...	3	1
Traumatic Aneurism	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Varicose Veins	...	...	...	...	...	...	1	1	2	...	...	...	...	...	...	...	...	1	3	2
Thrombosis	...	...	...	...	...	...	1	...	2	...	...	...	...	3	...	...	...	...	3	3
Secondary Hæmorrhage	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...
Lymphatic Glands	...	...	...	...	1	...	...	1	...	...	2	...	...	1	...	...	...	...	3	2
Diseases of the Lips.																				
Single Harelip	5	9	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	10
Double Harelip	1	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	4
Papilloma	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Diseases of Mouth and Cheek.																				
Stomatitis	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Papilloma	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...

DISEASES.	Under 5 yrs.		5–10.		10–15.		15–25.		25–35.		35–45.		45–55.		55–65.		65–75.		TOTAL.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF TONGUE.																				
Gumma	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
DISEASES OF JAWS.																				
Epulis	...	...	...	1	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	3
Suppuration in Antrum	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
DISEASES OF PALATE AND FAUCES.																				
Enlarged Tonsils	...	...	...	...	1	1	1	...	...	...	...	...	...	...	...	...	...	...	2	1
Abscess	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	1	1
Bifid Uvula	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Cleft Palate	...	2	...	1	1	1	2	3	1	...	...	...	...	...	...	...	...	...	4	7
DISEASES OF SALIVARY GLANDS.																				
Parotid Glandular Tumour	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	1	1
Fistula	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
DISEASES OF ŒSOPHAGUS AND LARYNX.																				
Stricture of Œsophagus	...	...	...	...	...	...	2	1	...	...	1	...	...	...	...	...	...	...	3	1
DISEASES OF THE INTESTINES.																				
Hernia—																				
Umbilical	...	...	...	...	1	...	...	...	...	...	...	2	...	...	...	4	...	...	1	6
Inguinal	3	...	1	...	2	...	5	...	6	...	8	2	4	2	2	...	8	...	39	4
Femoral	...	...	...	...	...	...	2	1	...	2	...	4	1	6	3	3	...	5	6	21
Fæcal Fistula	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	2
DISEASES OF RECTUM AND ANUS.																				
Fistula in Ano	...	...	...	...	1	...	5	...	9	5	5	6	7	2	3	1	...	1	30	15
Hæmorrhoids	...	...	...	...	...	...	...	3	1	2	2	2	2	1	1	...	...	...	6	8
Fissure of Anus	...	...	...	...	...	...	...	1	...	...	...	...	2	...	...	...	...	...	2	1
Fibrous Stricture	...	...	...	...	...	...	...	2	...	1	...	...	...	...	...	...	...	...	...	3
Imperforate Anus	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Recto-vesical Fistula	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	2	...

DISEASES.	Under 5 yrs.		5–10.		10–15.		15–25.		25–35.		35–45.		45–55.		55–65.		65–75.		TOTAL.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF URINARY SYSTEM.																				
Cystitis—																				
a. Acute	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	2	...
b. Chronic	...	...	...	...	...	...	1	1	...	1	1	...	2	...	...	...	1	...	5	2
Calculus Vesicæ—																				
a. Uric Acid	4	...	2	...	2	...	1	...	1	1	...	...	1	...	1	...	...	...	12	1
b. Oxalate of Lime	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	2	...
c. Phosphatic	...	...	...	...	...	...	...	...	1	...	...	...	3	...	1	...	1	...	6	...
Urethral Calculus	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...
Symptoms of Calculus	...	...	1	...	2	...	1	...	3	...	...	...	...	...	...	...	...	...	7	...
Ectropion Vesicæ	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...
Diseases of Prostate Gland.																				
Enlarged Prostate	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	7	...	9	...
Gonorrhœa and its Complications.																				
Gonorrhœa	...	...	...	...	...	...	15	119	12	6	1	...	2	...	...	...	...	...	30	125
Balanitis	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...
Phimosis	...	...	...	...	...	...	8	...	2	...	1	...	...	...	...	...	...	...	11	...
Paraphimosis	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	4	...
Bubo	...	...	...	...	...	...	5	22	5	4	1	...	...	1	...	...	...	...	11	27
Epididymitis	...	...	...	...	...	...	2	...	2	...	1	...	...	...	...	...	...	...	5	...
Verrucæ	...	...	...	...	...	...	6	30	...	1	...	...	...	...	...	...	...	...	6	31
Abscess in Labium	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	3
Gonorrhœal Rheumatism	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Diseases of Male Urethra.																				
Stricture—																				
a. Organic	...	...	...	...	...	...	3	...	9	...	8	...	9	...	2	...	4	...	35	...
b. Inflammatory	1	...	...	...	...	...	1	...	2	...	1	...	...	...	...	...	...	...	5	...
c. Traumatic	...	...	...	...	...	...	1	...	1	...	...	...	...	...	1	...	...	...	3	...
Urinary Fistula	...	...	...	...	...	...	...	...	8	...	3	...	4	...	...	...	1	...	16	...
Extravasation of Urine	...	...	...	...	1	...	...	...	...	...	1	...	3	...	...	...	...	...	5	...
Incontinence of Urine	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	1
Diseases of Penis and Testis.																				
Malformations—																				
a. Hypospadias	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
b. Phimosis	9	...	7	...	...	...	2	...	1	...	...	...	...	...	...	...	...	...	19	...
Paraphimosis	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...
Orchitis	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	2	...
Hydrocele	...	...	...	...	1	...	4	...	3	...	6	...	...	...	...	...	...	...	14	...
Varicocele	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	3	...
Hydrocele of the Cord	1	...	2	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	5	...

DISEASES.	Under 5 yrs.		5–10.		10–15.		15–25.		25–35.		35–45.		45–55.		55–65.		65–75.		TOTAL.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF FEMALE ORGANS OF GENERATION.																				
Diseases of the Ovary...	...	...	...	...	...	...	...	1	...	4	...	2	...	1	...	...	...	1	...	9
Diseases of the Uterus.																				
Polypus	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	3
Diseases of Vagina.																				
Vesico-Vaginal Fistula...	...	...	...	...	...	...	...	...	...	2	...	2	...	...	...	...	...	1	...	5
Diseases of Vulva.																				
Cyst of Labium	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	2
Fibro-cellular Tumour of Labium	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	2
Vascular Tumour of Urethra	...	...	...	...	...	...	...	1	...	1	...	...	...	1	...	...	...	...	...	3
Ruptured Perinæum ...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	2
DISEASES OF THE FEMALE BREAST.																				
Abscess	...	...	...	...	...	...	...	4	...	1	...	2	...	1	...	...	...	...	...	8
Non-Malignant Tumours																				
a. Chronic Mammary	...	...	...	...	...	...	...	2	...	2	...	2	...	...	...	...	...	1	...	7
b. Fibro-cystic.....	...	...	...	...	...	...	...	...	...	...	...	1	...	2	...	...	...	...	...	3
c. Simple Cyst	...	...	...	...	...	..	...	...	...	...	...	...	...	1	...	...	...	...	...	1
DISEASES OF THE ORGANS OF LOCOMOTION.																				
Periostitis	...	...	...	1	3	2	5	3	1	1	...	...	...	...	1	...	...	...	10	7
Diffuse Periostitis—																				
Acute Necrosis ...	...	...	2	1	2	2	1	1	...	...	...	...	...	...	...	...	...	...	5	4
Caries	2	...	2	1	4	1	5	4	2	1	1	...	2	...	1	...	1	...	20	7
Necrosis	5	2	8	1	10	5	10	5	14	3	10	1	5	6	3	2	...	...	65	25
Non-Malignant Tumours																				
a. Exostosis.....	...	...	...	...	...	2	1	2	...	...	...	...	...	...	...	...	...	...	1	4
b. Enchondroma.....	...	...	...	1	...	1	1	...	1	...	...	...	...	...	...	...	...	...	2	2
c. Fibrous	...	...	...	..	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...
False Joint of Tibia ...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...
Diseases of Joints.																				
Acute Synovitis	...	...	4	1	2	...	3	4	4	1	3	1	...	...	...	1	...	1	16	9
Chronic do.	3	1	5	4	3	4	15	11	9	7	7	6	2	2	...	...	1	...	45	3

DISEASES.	Under 5 yrs.		5–10.		10–15.		15–25.		25–35.		35–45.		45–55.		55–65.		65–75.		TOTAL.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE ORGANS OF LOCOMOTION (*continued*).																				
Diseases of Joints.																				
Ulceration of Cartilage	1	...	3	3	2	...	3	2	11	3	2	2	2	...	1	...	...	...	25	10
Ankylosis	...	1	1	...	1	...	1	1	...	3	1	...	1	...	1	...	...	...	6	5
Loose Cartilage	...	...	...	...	...	...	...	2	...	...	...	1	...	...	...	...	...	...	...	3
Knock-Knee	...	...	...	...	1	4	2	2	...	...	1	...	...	...	...	...	...	...	4	6
Diseases of the Spine.																				
Caries	...	...	2	...	...	...	...	...	...	...	...	1	2	...	...	...	...	...	4	1
Psoas, Lumbar, and other Abscesses	...	1	...	...	...	...	...	1	4	...	1	...	...	1	1	...	...	...	6	3
Angular Curvature	2	2	3	4	3	4	4	3	...	1	...	1	...	...	...	...	...	...	12	15
Lateral Curvature	...	...	...	...	...	1	1	2	...	1	...	...	...	...	...	...	...	...	1	4
Spina Bifida	...	2	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	2
Diseases of Muscles.																				
Non-malignant Tumour (Phantom)	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Contraction of Tendons, Fasciæ, or Muscles	...	...	2	...	...	2	2	1	1	...	...	...	...	...	...	...	...	...	5	3
Club-Foot—																				
a. Talipes Equinus	1	1	1	3	1	1	...	1	...	...	...	...	...	...	...	...	...	...	3	6
b. Do. Varus	...	1	...	2	3	1	...	...	...	...	...	...	...	...	...	...	...	...	3	4
c. Do. Valgus	...	...	...	...	1	1	...	...	...	...	1	...	...	...	...	...	...	...	2	1
d. Do. Equino-Varus	7	4	9	2	1	2	1	...	...	...	1	2	...	...	...	...	...	...	19	10
Wry-Neck	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Enlarged Bursa Patellæ	...	...	...	...	...	...	...	5	...	3	...	...	...	...	...	2	...	...	...	10
Enlargement of other Bursæ	...	...	...	...	...	...	...	...	..	...	1	...	...	...	...	...	1	...	2	...
Inflammation and Suppuration of Bursa Patellæ	...	...	...	...	...	1	2	11	4	5	3	5	1	4	...	...	...	1	10	27
Do. do. of other Bursæ	...	...	...	...	...	...	...	1	2	...	2	...	...	1	...	1	...	...	4	3
Bursal Tumour—																				
a. Of Bursa Patellæ	...	...	...	...	...	...	...	1	...	5	...	...	...	2	...	...	...	...	...	8
b. Of other Bursæ	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Infantile Paralysis	2	2	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	2	4
DISEASES OF THE CELLULAR TISSUE.																				
Abscess	3	8	13	3	11	6	16	20	13	11	19	6	9	9	5	1	1	1	90	65
Slough	...	...	...	...	...	...	1	1	1	...	1	...	...	...	...	...	1	...	4	1
Connective Tissue Tumours—																				
a. Fatty	...	...	...	...	...	...	1	...	2	3	2	3	1	1	1	1	...	...	7	8
b. Fibro-cellular	...	...	...	...	...	1	...	4	...	3	2	...	...	...	...	...	...	...	2	8

DISEASES.	Under 5 yrs.		5–10.		10–15.		15–25.		25–35.		35–45.		45–55.		55–65.		65–75.		TOTAL.	
	M.	F.	M	F.	M	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE CELLULAR TISSUE (*continued*).																				
Connective Tissue Tumours—																				
c. Recurrent Fibroid	...	...	...	.	...	...	...	...	3	...	...	...	3	...	1	1	...	1	7	2
d. Sarcoma	...	...	...	...	...	...	...	1	...	...	...	...	...	...	2	...	...	...	2	1
e. Myxoma	...	...	...	...	...	...	...	...	...	1	...	...	2	...	...	...	...	...	2	1
Serous Cysts	1	2	...	2	...	...	...	...	...	2	...	...	...	...	1	...	...	...	2	6
Dermoid Cysts	...	3	...	2	...	...	...	...	1	1	3	2	...	2	..	...	...	1	4	11
DISEASES OF THE CUTANEOUS SYSTEM.																				
Eczema	...	1	...	...	1	...	...	1	2	1	...	1	...	2	...	2	1	...	4	8
Psoriasis	...	...	...	...	...	...	1	3	...	...	...	...	...	...	...	...	...	...	1	3
Scabies	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...
Ulcer	1	...	1	...	...	...	7	6	9	5	5	7	4	6	3	6	...	2	30	32
Carbuncle	...	...	...	...	...	...	1	...	...	...	3	1	2	3	2	...	2	...	10	4
Onychia Maligna	1	...	...	1	...	...	...	...	1	...	...	1	...	...	...	...	...	...	2	2
Thecal Abscess	...	...	...	...	...	...	...	...	2	...	1	...	...	...	...	1	...	...	3	1
Gangrene	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...
Mole	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Nævus	3	4	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	3	5
In-growing Toe-Nail	...	...	...	...	...	...	3	1	1	...	...	...	...	...	..	1	...	...	4	2
Rodent Ulcer	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	3	...
GENERAL INJURIES.																				
Burns and Scalds	22	21	10	7	2	4	7	7	2	...	1	3	1	...	1	4	3	...	49	46
Contusions	4	2	4	1	5	3	4	2	5	2	4	2	2	...	1	...	...	...	29	12
LOCAL INJURIES.																				
Injuries of the Head.																				
Contusions	1	1	...	...	...	...	...	1	2	2	...	...	...	1	...	...	...	...	3	5
Scalp Wound	2	...	4	...	4	2	9	...	12	6	10	3	8	3	5	2	1	2	55	18
Concussion of Brain	3	3	5	3	13	1	16	...	8	1	5	3	8	...	...	...	...	...	58	11
Fractures of Skull	2	...	1	...	...	...	4	...	6	...	4	...	2	...	1	...	1	...	21	...
Gunshot Wounds	...	...	...	...	...	...	...	1	2	...	...	...	...	...	...	...	...	...	2	1
Injuries of the Face.																				
Contusion	...	...	2	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	3	1
Wound	2	...	1	...	2	...	...	1	3	...	3	2	...	1	...	...	...	...	11	4
Fractures	...	...	...	...	...	...	2	...	1	...	1	...	...	...	...	...	...	...	4	...
Foreign Body	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...

DISEASES.	Under 5 yrs.		5–10.		10–15.		15–25.		25–35.		35–45.		45–55.		55–65.		65–75.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Local Injuries (*continued*).																				
Injuries of the Eye	...	...	...	2	2	1	3	...	6	...	...	1	...	2	...	...	1	...	12	6
Injuries of the Neck.																				
Cut Throat	...	...	...	...	...	...	1	...	2	1	...	...	3	2	1	...	...	...	7	3
Other Injuries	...	...	...	...	...	...	...	2	2	...	1	2	1	1	...	...	...	...	4	5
Injuries of the Chest.																				
Contusion	...	...	1	1	3	...	1	1	...	1	1	3	2	...	...	...	1	...	9	6
Wound	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	1	1
Fractured Ribs	...	...	1	...	...	1	3	1	4	1	5	1	12	1	3	...	2	...	30	5
Injuries of the Back.																				
Contusion	...	...	...	1	4	...	2	1	5	1	...	...	2	...	2	...	...	...	15	3
Fracture of Spine	...	1	...	...	...	...	...	...	2	...	1	...	1	...	1	...	...	...	5	1
Other Injuries	...	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	2	1
Injuries of the Abdomen.																				
Contusion	..	...	1	1	2	1	6	...	2	1	...	...	...	...	1	...	...	...	12	3
Do., with Rupture of Viscera	...	...	...	...	3	...	2	...	...	...	...	...	...	...	...	...	...	...	5	...
Wound	...	...	...	...	...	...	1	...	2	...	...	...	...	...	...	...	...	...	3	...
Injuries of the Pelvis.																				
Contusion	1	...	...	...	2	...	2	...	...	...	...	1	1	...	...	...	...	...	6	1
Wound	...	1	...	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	1	3
Fracture	...	...	...	...	...	...	...	...	1	...	2	...	...	...	1	...	...	...	4	...
Injuries of the Upper Extremity.																				
Contusion	...	...	...	...	...	...	2	...	2	...	...	...	...	...	...	...	1	...	5	...
Wound—																				
Of Arm	...	...	...	1	2	...	...	...	1	...	1	...	...	...	...	...	...	...	4	1
Of Elbow	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Of Forearm	...	...	...	...	...	...	2	...	3	...	1	...	...	...	...	...	...	...	6	...
Of Hand	...	...	2	2	8	...	17	...	3	...	2	...	2	...	...	...	4	...	34	2
Injuries of Vessels	...	...	...	...	1	...	3	2	2	1	...	...	1	...	...	...	...	...	7	3
Fracture of Clavicle	1	...	...	...	...	1	4	...	...	...	...	1	1	...	1	...	1	1	8	3
Scapula	...	...	...	...	1	...	...	...	...	...	1	...	1	...	2	...	1	...	6	...
Humerus	1	...	1	1	2	...	8	2	4	...	3	2	4	1	3	2	...	3	26	11
Forearm and Hand	...	...	1	...	2	...	1	1	5	1	3	...	3	...	2	2	1	2	18	6
Dislocations	...	...	...	...	...	...	1	1	1	2	...	1	3	1	4	...	...	2	9	7

DISEASES.	Under 5 yrs.		5–10.		10–15.		15–25.		25–35.		35–45.		45–55.		55–65.		65–75.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Local Injuries (*continued*).																				
Injuries of Lower Extremities.																				
Contusions	2	...	2	...	5	1	8	2	5	2	2	2	5	3	3	2	...	1	32	13
Sprained Ankle	...	...	...	2	...	...	8	2	2	2	3	2	1	1	...	2	...	...	14	11
Wounds—																				
Of Thigh	...	...	...	...	...	...	7	2	2	...	...	...	...	...	...	...	1	...	10	2
Over Knee	...	...	...	...	2	...	1	...	...	...	2	...	2	...	...	...	...	1	7	1
Of Leg	...	...	1	...	2	...	...	1	1	...	3	...	...	...	...	...	...	...	7	1
Of Foot	...	...	1	...	4	...	4	...	1	...	1	1	...	...	1	...	...	...	12	1
Of Knee-Joint	...	...	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	3	...
Foreign Bodies removed	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	3
Frost Bite	...	...	...	...	1	..	...	..	...	...	...	...	...	...	...	...	...	...	1	...
Fracture of Femur—																				
Simple	12	8	12	1	9	...	9	...	11	...	7	...	5	1	3	3	1	5	69	18
Compound	...	...	...	...	...	...	...	...	...	...	2	...	...	...	1	...	...	...	3	...
Cervix Femoris	...	...	...	...	...	...	...	...	...	...	1	1	2	...	5	2	2	9	10	12
Patella	...	...	...	...	...	...	3	...	4	3	2	6	5	5	5	1	2	...	21	15
Both Bones of the Leg—																				
Simple	1	2	7	1	9	1	11	3	16	8	17	4	15	3	10	6	3	2	89	30
Compound	...	...	...	2	...	...	3	...	4	1	5	1	3	...	3	2	...	3	18	9
Fracture of Tibia, Simple	2	1	5	...	4	...	2	...	2	...	3	...	3	1	1	1	...	...	22	3
Fracture of Fibula, do.	...	...	...	...	...	...	8	...	19	2	6	1	7	2	3	2	1	1	44	8
Do. Compound	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...
"Pott's Fracture" of Leg	...	...	...	...	...	...	...	...	1	...	5	...	2	...	5	1	...	1	13	2
Ununited Fractures	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	1	1
Dislocations	...	...	...	...	1	...	...	1	2	...	2	...	1	...	2	..	...	...	8	1
Cases not classified	2	1	3	1	4	2	4	7	13	5	3	3	2	...	1	1	3	...	35	20

SUB-TABLE (FRACTURES AND DISLOCATIONS).

NATURE OF INJURY.	Under 5 yrs.		5–10.		10–15.		15–25.		25–35.		35–45.		45–55.		55–65.		65–75.		Total.		Deaths.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Simple Fractures:																						
Skull, Base	...	...	...	...	...	...	...	...	4	...	4	...	2	...	1	...	1	...	12	...	9	...
Ribs	...	...	1	...	...	1	3	1	4	1	5	1	12	1	3	...	2	...	30	5	6	1
Spine	...	1	...	...	...	...	...	...	2	...	1	...	1	...	1	...	...	...	5	1	5	...
Pelvis	...	...	...	...	...	...	...	...	1	...	2	...	...	...	1	...	...	...	4	...	...	...
Clavicle	1	...	...	...	...	1	4	...	...	...	...	1	1	...	1	...	1	1	8	3	...	...
Scapula	...	...	...	...	1	...	...	...	...	...	1	...	1	...	2	...	1	...	6	...	...	...
Humerus	1	...	1	1	2	...	9	2	5	1	3	2	4	1	3	2	...	3	28	12	1	...
Forearm	...	...	1	...	2	...	3	1	5	3	3	...	3	...	2	2	1	2	20	8	...	1
Femur, Shaft	12	8	12	1	9	...	9	...	12	...	7	...	5	1	3	3	1	5	70	18	1	...
,, Neck	...	...	...	...	...	...	...	...	...	...	1	1	2	...	5	2	2	9	10	12	4	1
Patella	...	...	...	...	...	...	3	...	4	3	2	6	5	5	5	1	2	...	21	15	...	...
Tibia and Fibula	...	...	...	...	...	...	8	1	20	2	7	1	8	2	3	2	1	1	47	9	1	1
Tibia alone	2	1	5	...	4	...	2	...	2	...	3	...	3	1	1	1	...	...	22	3	...	...
Fibula alone	...	...	...	...	...	...	8	...	19	2	6	1	7	2	3	2	1	1	44	8	...	...
"Pott's Fracture"	...	...	...	...	...	...	...	...	1	...	5	...	2	...	5	1	...	1	13	2	...	...
Total	16	10	20	2	18	2	49	5	79	12	50	13	56	13	39	16	13	23	340	96	27	5
Deduct multiple fractures of separate bones ...																			8	4	...	...
Total number of patients under treatment.....																			332	92	...	...
Compound Fractures:																						
Skull, Vault	2	...	1	...	...	...	4	...	2	...	...	...	...	...	...	...	...	...	9	...	1	...
Bones of Face	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	2	...	...	...
Inferior Maxilla	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	2	...	...	...
Humerus	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	2	...	...	...
Forearm	...	...	...	...	1	...	2	1	1	...	2	...	...	...	...	...	...	...	6	1	...	...
Femur	...	...	...	...	...	...	...	...	...	...	2	...	...	...	1	...	...	...	3	...	1	...
Tibia and Fibula	...	...	...	2	...	...	3	...	4	1	5	1	3	...	3	2	...	3	18	9	3	1
Fibula	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Total	2	...	1	2	1	...	13	1	8	1	10	1	4	...	4	2	...	3	43	10	5	1
Dislocations:																						
Clavicle	...	...	...	...	...	...	...	...	...	2	...	...	2	...	...	...	...	...	2	2	...	...
Humerus	...	...	...	...	...	...	...	...	...	...	1	1	1	...	3	1	...	1	5	3	...	...
Radius and Ulna	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	1	1	...	...
Thumb	...	...	...	...	...	...	1	1	...	...	...	...	...	...	1	...	...	...	2	1	...	...
Hip	...	...	...	...	...	...	...	...	2	...	3	...	1	...	...	...	...	...	6	...	...	...
Patella	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Knee	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Astragalus	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...
Total	...	...	...	...	1	...	2	2	3	2	4	1	4	...	4	1	...	2	18	8	...	...

CAUSES OF DEATH.

Disease, injury, or operation.	No. of cases.	Ages of males.	Ages of females.	Remarks.
Phagedæna	2	.....	25—35	Destroying labia and parts around, death from exhaustion three months after admission.
„	...	.....	Under 5	Vulva, exhaustion, death 33 days after admission.
Erysipelas	5			
a. Simple	...	.....	45—55	Of head, face, and chest, death from exhaustion.
„	...	.....	„ „	Of head and face, following severe scalp wound, complicated with delirium tremens, death three days after admission.
b. Phlegmonous	...	45—55	.....	Of the arm, death from exhaustion, four days admission.
„	...	65—75	.....	Of the foot, following amputation of the great toe, death from exhaustion three months after admission.
„	...	55—65	.....	Of the foot and leg, following injury, rapid exhaustion, death three days after admission.
Pyæmia	5	10—15	.....	Followed acute necrosis of the tibia, death two days after admission, acute pleurisy, abscesses in lungs.
„	...	55—65	.....	Followed the removal of a small bursal tumour from the shoulder, death 17 days after admission.
„	...	.....	15—25	Followed extensive sloughing about the nates, extreme prostration, death 14 days after admission.
„	...	.....	„ „	Followed extensive suppuration of inguinal glands, after gonorrhœa, death five weeks after admission.
„	...	.....	35—45	Followed destructive disease of the knee-joint, death 17 days after admission.
Syphilis	8	35—45	.....	Extensive rupia, death from exhaustion.
„	...	.....	25—35	Tertiary syphilis, amyloid disease of intestines, spleen, liver, death seven days after admission.
„	...	.....	„ „	Tertiary syphilis, death in convulsions a month after admission.
„	...	.....	45—55	Tertiary syphilis, death from acute peritonitis, from fæcal extravasation through perforating ulcer through appendix vermiformis.
Congenital	...	Under 5	.....	Death from exhaustion at the age of six months, mother of the child under treatment in the ward for syphilis.
„	...	.....	Under 5	Extensive ulceration about labia and anus, abundant psoriasis, death from pneumonia.

Disease, injury, or operation.	No. of cases.	Ages of males.	Ages of females.	Remarks.
Syphilis (*continued*)—				
Of Larynx	...	35—45	.....	Death from exhaustion, three after tracheotomy.
Of Rectum	...	.....	25—35	Very profuse and offensive disch exhaustion five months afte mission.
Cancer	14			
A. Scirrhus—Female Breast.	...	.....	45—55	Breast and axillary glands rem death three weeks after operat
" "	...	.....	55—65	Recurrent disease, removal of whole mass, died from acute l chitis, three weeks after operat
B. Medullary—Female Breast	...	.....	35—45	No operation, death from exhau two months after admission, sec ary deposits in lungs, pleuræ, liver.
Neck	...	65—75	.....	Large growth, extensive sloughi the mass, death from exhau two months after admission.
Antrum	...	.....	65—75	Disease too extensive for removal ploratory operation performed, haustion, death 10 weeks admission.
Bone	...	25—35	.....	Disease of the femur, amputatio the thigh, death a month operation, secondary deposits pleuræ, Bright's disease.
"	...	35—45	.....	Disease of lower end of hum amputation of upper arm, acute the same side, secondary dep in lungs, liver, and kidneys, d six weeks after admission.
Rectum	...	15—25	.....	Death from exhaustion seven w after admission.
Prostate	...	65—75	.....	Had hæmaturia, died of acute sipelas of head, face, and should three weeks after admission.
Labia	...	.....	25—35	Extensive disease, death from exh tion the day after admission.
C. Epithelial—Lip	...	55—65	.....	Disease involved also the submaxil glands and surrounding tissues, tensive sloughing, died of exh tion three months after admissi
Œsophagus ...	...	35—45	.....	Gastrotomy was performed, d taking place seven days afterw from acute peritonitis and diaph matic pleurisy on the left s secondary deposits in the stoma
Penis	...	45—55	.....	Amputation of penis, acute periton pericarditis, hydronephrosis, ulc tion of intestine, died three w after operation.
D. Melanotic	...	.....	35—45	Extensive mass of disease in ax which was removed by free excis rapid recurrence, died of exhaus three weeks after operation.

Disease, injury, or operation.	No. of cases.	Ages of males.	Ages of females.	Remarks.
Scrofula—Joints	6	5—10	.....	Of hip, with large diffuse abscesses about the joint, death from exhaustion six months after admission.
„	...	15—25	.....	Of hip, long-standing suppuration, amyloid disease, death 10 months after admission.
„	...	25—35	.....	Of ankle, with abscesses about external malleolus, Syme's amputation of foot, albuminuria, old tubercle in lungs, death three weeks after operation.
„	...	35—45	.....	Of hip, profuse suppuration about the joint, amyloid disease, death six weeks after admission.
„	...	.....	5—10	Of hip, died of tubercular meningitis six weeks after admission.
„	...	.....	25—35	Of hip, for which excision of the head of the femur was performed, death took place from exhaustion two years after admission.
Tubercle	2	5—10	.....	Tubercular disease of the brain, tumour in cerebellum, fatal two days after admission.
„	...	35—45	.....	Tubercular disease of intestines and lungs, death from peritonitis 10 weeks after admission.
Aneurism—				
Abdominal Aorta.....	4	25—35	.....	A large, false, sacculated aneurism, which by pressure had produced intestinal obstruction, fatal by rupture into the peritoneal cavity, two days after admission.
Thoracic Aorta.....	...	35—45	.....	A large sacculated aneurism, produced gradually increasing difficulty in breathing and swallowing, and collapse of left lung, death three months after admission.
Left Subclavian Artery ...	...	„ „	.....	Also of abdominal aorta, treated by manipulation and pressure, fatal by bursting into the left pleura five months after admission.
Left Femoral Artery	...	75	.....	A large, false, sacculated aneurism of the upper third of the vessel, partial suppuration of the false sac, and thrombosis of the left femoral vein took place after pressure with tourniquet, death resulting 17 days after admission.
Hernia	17			
Inguinal	...	45—55	.....	Operation, sac opened, ulceration through appendix vermiformis, acute peritonitis, death on third day.
„	...	„ „	.....	Operation, sac not opened, sloughing of scrotum, diarrhœa, exhaustion, death on eleventh day.

Disease, injury, or operation.	No. of cases.	Ages of males.	Ages of females.	Remarks.
Hernia (*continued*)—				
Inguinal	...	55—65	.....	Operation, sac opened, death took place from exhaustion a few hours afterwards.
„	...	65—75	.....	Admitted with strangulated hernia, easily reduced at once by taxis, death from exhaustion three days afterwards, no strangulation discovered post-mortem.
„	...	„ „	.....	Operation, sac opened, died the same day.
Femoral	...	.....	25—35	Operation, sac opened, death from peritonitis the following day.
„	...	.....	35—45	Operation, sac opened, perforating ulcer of the bowel, without escape of contents, peritonitis, death in two days.
„	...	.....	„ „	Operation, sac opened, intense peritonitis, death the following day.
„	...	.....	55—65	Operation, sac not opened, diffuse cellulitis about wound, acute bronchitis and emphysema, death on seventh day.
„	...	.....	„ „	Operation, sac opened, death from peritonitis 10 days after operation.
„	...	.....	65—75	Operation, sac opened, died from exhaustion in six weeks.
„	...	.....	„ „	Operation, sac opened, death from peritonitis on third day.
„	...	.....	„ „	Operation, sac opened, died the next day.
„	...	.....	83	Operation, sac not opened, entero-peritonitis, death 18 days after operation.
Umbilical	...	.....	45—55	Operation, the contents of the sac were gangrenous on admission, after the operation there was fæcal extravasation into the peritoneum, producing intense peritonitis, death in two days.
„	...	.....	55—65	Operation, death from exhaustion the next day.
„	...	.....	„ „	Operation, after which the intestines protruded, and another incision had to be made, death from exhaustion on third day.
Intestinal Obstruction	2	.....	„ „	Colotomy was performed for complete obstruction produced by the pressure of a large cancer of the uterus, died of bronchitis and exhaustion in 14 days.
„ „	...	.....	65—75	Colotomy performed for cancerous stricture of the sigmoid flexure death from exhaustion 15 days after operation.

Disease, injury, or operation.	No. of cases.	Ages of males.	Ages of females.	Remarks.
Fistula-in-Ano	2	15—25	.....	Fatal through exhaustion and phthisis a month after admission.
"	...	55—65	.....	Fatal through exhaustion and phthisis a week after admission.
Fæcal Fistula	1	.....	15—25	Situated in the left loin, followed the escape of a calculus from the kidney, which afterwards suppurated, thrombosis of right external iliac vein, commencing gangrene of foot, advanced phthisis, death ten days after admission.
Calculus vesicæ	5	10—15	.....	The calculus was removed from the urethra, where it had produced complete retention of urine for several hours, the bladder being distended to the umbilicus, death resulted from acute peritonitis and cystitis six days after admission.
" "	...	15—25	.....	Lateral lithotomy was performed, and a large oxalate of lime calculus removed, death took place from thrombosis of the external iliac and femoral veins, and consequent gangrene of the leg, three weeks after operation.
" "	...	45—55	.....	Lithotrity performed three times for mixed phosphate calculus, complicated with enlarged prostate, death from exhaustion three weeks after admission.
" "	...	55—65	.....	Lateral lithotomy, mixed phosphate calculus, cystitis, pelvic cellulitis, peritonitis, suppuration of both kidneys, death three weeks after admission, patient had also stricture of urethra and enlarged prostate.
" "	...	65—75	.....	Lithotrity performed four times for mixed phosphate calculus, death from exhaustion and ulcerative cystitis six weeks after admission.
Stricture of Urethra	3	45—55	.....	Had prostatic abscess, followed by ulcerative cystitis, death from exhaustion two months after admission.
" "	...	" "	.....	Complicated with perineal fistulæ, had acute cystitis and pyelitis, died of acute catarrhal laryngitis three months after admission.
" "	...	55—65	.....	Had retention of urine, died of Bright's disease five days after admission.
Extravasation of Urine	2	45—55	.....	Death from exhaustion five weeks after admission.
" "	...	" "	.....	Had extensive sloughing of the scrotum, death from exhaustion five days after admission.

Disease, injury, or operation.	No. of cases.	Ages of males.	Ages of females.	Remarks.
Disease of the Ovary	4	.....	25—35	Died of exhaustion four weeks admission.
,, ,, ...	...	.....	,, ,,	Ovariotomy performed, fatal thr peritonitis two days after opera
,, ,, ...	...	.....	,, ,,	Ovariotomy performed, death peritonitis two days after opera
,, ,, ...	...	.....	45—55	Died of syphilitic meningitis weeks after admission.
Necrosis	5	.....	15—25	Acute necrosis of portion of tem bone, from a prick with a pi days before, death from meningitis and abscess in cerel two days after admission.
,, ...	...	25—35	.....	Necrosis of upper portion of fe profuse suppuration, death exhaustion two months after mission.
,, ...	...	,, ,,	.....	Necrosis of lower jaw, many t under treatment, a number o questra removed, death from haustion and amyloid disease o the abdominal viscera.
,, ...	...	35—45	.....	Necrosis of two or three phalan acute inflammation of hand, suddenly in the ward, fatty hea
,, ...	...	,, ,,	.....	Necrosis of femur, large sequest removed by operation, followed pyæmia, pleurisy, endocarditis, d one month after admission.
Caries	4	25—35	.....	Long-standing disease of spine, lun abscess, death from exhaustion t weeks after admission.
,, ...	...	55—65	.....	Disease of spine, umbar absce death from exhaustion three mo after admission.
,, ...	...	15—25	.....	Extensive disease of pelvis, large p abscesses, death from exhaus three weeks after admission.
,, ...	...	10—15	.....	Of tarsus, death from exhaustion weeks after admission.
Diseases of Joints—				
Of Knee-joint	1	35—45	.....	Amputation of the thigh perfor followed by necrosis of upper of femur, diffuse suppuration am the muscles, exhaustion, death months after operation.
Abscess of Cellular Tissue	4	.....	Under 5	Situated in gluteal region, complic with hooping cough, death f exhaustion two days after admiss
,, ,, ...	...	35—45	.....	Situated over the trachea, exten sloughing of integument, death f exhaustion two days after admiss
,, ,, ...	...	65—75	.....	Large diffuse abscess of leg, sloughing of integument, a accident, death from exhaustion 16 days.

Disease, injury, or operation.	No. of cases.	Ages of males.	Ages of females.	Remarks.
Abscess of Cellular Tissue (*con.*)	...	15—25	.....	Carbuncular inflammation, with diffuse abscess of leg, death from pyæmia four days after admission.
Gangrene.....	1	35—45	.....	Of the leg, due to embolism of femoral artery, advanced heart disease, death on sixth day after admission.
Fatty Tumour	1	45—55	.....	A large pendulous growth was removed from the front wall of the axilla, the operation wound healed by first intention, but the patient died with symptoms of complete intestinal obstruction a week afterwards, the cause being found to be due to volvulus.
Fibro-cellular Tumour.....	1	.....	55—65	A large recurrent growth removed, death from exhaustion three months afterwards.
Fibro-cystic Disease of Breast...	1	.....	„ „	A very rapidly growing and considerable mass of disease, death from pleurisy and exhaustion six days after admission.
Burns and Scalds.....	23	Under 5	.....	Eleven cases, five by collapse, four by exhaustion, in two cases tracheotomy was performed in both for scald of the glottis from drinking hot water, one died the day after operation of exhaustion, the other of acute bronchitis in two days.
„ „	...	5—10	.....	Three cases, death from exhaustion in all.
„ „	...	15—20	.....	One case, death from exhaustion in three days.
„ „	...	55—65	.....	One case, death from exhaustion in 14 days.
„ „	...	65—75	.....	One case, death from exhaustion in three weeks.
„ „	...	78	.....	One case, death from exhaustion in three weeks.
„ „	...	.....	Under 5	Three cases, two by collapse, in one case tracheotomy was performed for scald of the glottis from drinking hot water, death from pneumonia in three days.
„ „	...	.....	15—25	One case, death from exhaustion in two days.
„ „	...	.....	55—65	One case, fell into the fire in a fit, death from exhaustion in seven days.
Fracture of Vault of Skull—				
With Depression	1	Under 5	.....	Death from meningitis on tenth day.
Fracture of Base of Skull.....	10	25—35	.....	Death two days after admission.
„ „ „	...	„ „	.....	With compound fracture of vault of skull, laceration of middle meningeal artery and lateral sinus, laceration of brain, fatal in six days.

Disease, injury, or operation.	No. of cases.	Ages of males.	Ages of females.	Remarks.
Fracture of Base of Skull (*con.*)	...	35—45	.....	Committed suicide by throwing himself out of one of the medical ward windows, where he was under treatment for acute broncho-pneumonia.
,, ,, ,, ...	...	,, ,,	.....	Death within 24 hours.
,, ,, ,, ...	...	,, ,,	.....	Death on seventh day.
,, ,, ,, ...	...	,, ,,	.....	Death within 24 hours.
,, ,, ,, ...	...	45—55	.....	Death within 24 hours.
,, ,, ,, ...	...	55—65	.....	Death within 24 hours.
,, ,, ,, ...	...	65—75	.....	Complicated with fracture of the femur, death within 24 hours.
,, ,, ,, ...	...	45—55	.....	Also had fractures of nine ribs and clavicle, death on 14th day.
Cut Throat	1	.....	.....	Death from exhaustion nine days after admission.
Fractured Ribs.....	6	25—35	.....	Died with acute bronchitis in three days.
,, ,, ...	...	35—45	.....	Had hæmothorax, also lacerations of several of the abdominal viscera, death four days after admission.
,, ,, ...	...	,, ,,	.....	Had laceration of right lung.
,, ,, ...	...	,, ,,	.....	Had furious delirium tremens, of which he died a week after admission.
,, ,, ...	...	45—55	.....	Complicated with emphysema, death on third day.
,, ,, ...	...	.....	10—15	Died while being carried into the ward.
Fracture of Spine.....	5	15—25	.....	Fracture of fourth cervical vertebra with rupture of cartilage between fourth and fifth, smashing of spinal cord, fatal within 24 hours.
,, ,, ...	...	25—35	.....	Separation of fourth and fifth cervical vertebræ, severe contusion of spinal cord, fatal in 11 days.
,, ,, ...	...	,, ,,	.....	Of cervical spine, fatal in two days.
,, ,, ...	...	55—65	.....	Separation of vertebra prominens from first dorsal, fracture of body of seventh cervical, severe contusion of spinal cord, fatal in three days.
,, ,, ...	...	.....	Under 5	Dislocation of sixth and seventh cervical vertebræ, crushing of spinal cord, fatal in 10 days.
Contusions of Chest and Back...	3	77	.....	Chronic bronchitis, death from diarrhœa and exhaustion, three months after admission.
,, ,, ,, ...	...	25—35	.....	Death from hemiplegia and extensive softening of the brain, one month after admission.
,, ,, ,, ...	...	35—45	.....	Paraplegia, death from exhaustion nine months after admission.
Wound of Abdomen.....	1	25—35	.....	Stabbed with a knife, hæmorrhage into peritoneal cavity, fatal the next day.
Rupture of Abdominal Viscera	5	10—15	.....	Rupture of small intestine, fatal in two days.

CAUSES OF DEATH (*continued*).

Disease, injury, or operation.	No of cases.	Ages of males.	Ages of females.	Remarks.
Rupture of Abdominal Viscera (*continued*)	...	10—15	.....	Rupture of small intestine, fæcal ex travasation, fatal the same day.
" " "	...	" "	.....	Rupture of spleen and left kidney fatal the same day.
" " "	...	15—25	.....	Ulceration of intestine, fæcal extrava sation, fatal the next day.
" " "	...	" "	.....	Death from peritonitis in five days.
Wound of Hand	1	35—45	.....	Severe contusion and laceration, deatl from tetanus the day after ad admission.
Gun-shot Wounds	2	25—35	.....	Revolver shot through the head suicidal, laceration of brain, fata the next day.
" "	...	.....	15—25	Revolver wounds of the head, one through the left cheek, the othe through left orbit into body o sphenoid, the former was extracted from the antrum, the latter set up acute cerebro-spinal meningitis which proved fatal five weeks after admission.
Fracture of Radius	1	.....	81	Also contusion, death from exhaustion in one week.
Humerus	1	55—65	.....	Also severe contusions, death from acute bronchitis, six weeks after admission.
Femur—				
Simple	1	65—75	.....	Also of left arm, death from exhaus-tion in 16 days.
Compound .	1	55—65	.....	With wound of the knee joint, death from exhaustion in 23 days.
Cervix Femoris ...	5	" "	.....	Comminuted fracture, Bright's disease, death from exhaustion in 22 days.
" " ...	...	" "	.....	Had also fractures of the ribs, death from bronchitis and emphysema, four days after admission.
" " ...	...	" "	.....	Death from exhaustion in two months.
" " ...	...	65—75	.....	Death from chronic bronchitis and exhaustion two days after admis-sion.
" " ...	...	.....	79	Death from exhaustion three days after admission.
Bones of Leg—				
Simple	2	65—75	.....	Followed by considerable sloughing of integument of leg, exhaustion, death three days after admission.
"	...	.....	65—75	Simple fractures of both legs, fatal in 11 days.
Compound...	4	35—45	.....	Compound fractures of both legs into the knee joints, primary amputation of both thighs, fatal through shock the next day.
" ...	...	" "	.....	Compound fractures of both legs and other injuries, died on the stretcher in the ward.

Disease, injury, or operation.	No. of cases.	Ages of males.	Ages of females.	Remarks.
Fracture of Bones of Leg(*con.*)—Compound...	...	35—45	.....	Compound fractures of both leg death from shock on third day.
„ ...	...	55—65	.....	Had also fracture of neck of femu death from exhaustion in eig days.
Sudden Death	1	65—75	.....	Admitted to have an operation pe formed for a neuralgic scar of t hand following gun-shot wound. Died suddenly in the ward of fat heart.
Death due to Chloroform	2	15—25	.....	Was about to be operated on f phimosis, death occurred und chloroform, advanced fatty degener tion of the heart and draphragm.
„ „ „	...	25—35	.....	After operation of circumcision, i cessant and continuous vomiti took place, death resulting fro exhaustion, the next day.
Gastro-Enteritis	1	3	.....	Fatal 10 days after admission.

SURGICAL OPERATIONS PERFORMED.

OPERATIONS.	AGE AND SEX.																							
	Under 5 Years.		5—		10—		20—		30—		40—		50—		60—		70—		Total.		Cured and Relieved.		Not Relieved.		Died.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Operations on the Eye.																										
Strabismus	...	2	...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...	2	3	2	3	...	...	...	...
Iridectomy—																										
In one Eye	...	...	4	3	1	1	2	1	2	...	2	3	...	2	...	2	...	...	11	12	11	12	...	...	...	...
In both Eyes	...	...	...	...	...	1	...	...	...	...	1	...	1	1	...	...	...	...	2	2	2	2	...	...	...	...
Cataract—																										
Linear Extraction	...	...	...	...	...	...	...	1	3	...	4	...	4	3	1	2	2	3	14	9	14	8	...	1	...	...
Needle Operation	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1	...	...	...	2	1	2	1	...	...	...	...
Suction ,,	...	...	...	...	...	...	1	...	1	...	...	...	...	1	...	...	...	...	2	1	2	1	...	...	...	...
Removal of Capsules	...	...	...	...	2	1	1	...	...	...	...	...	...	...	...	...	...	...	3	1	3	1	...	...	...	...
Abscission	...	1	1	...	...	...	1	1	...	...	1	...	...	...	...	...	...	...	3	2	3	2	...	...	...	...
Extirpation of Globe	...	2	1	...	1	...	1	...	3	...	...	3	...	1	1	2	...	...	7	8	7	8	...	...	...	...
Obstruction of Lachrymal Ducts	...	1	...	1	2	1	...	2	1	...	...	...	...	...	...	...	...	...	3	5	3	5	...	...	...	...
Paracentesis Corneæ	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1	...	...	...	2	1	2	1	...	...	...	...
Conical Cornea	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...
Fistula Corneæ	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...
Removal of portion of Cornea	...	1	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	3	...	...	...	...
Entropion	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Ectropion	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Removal of Tumours	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	2	...	2	...	...	...	...	...

OPERATIONS.	AGE AND SEX.																							
	Under 5 Years.		5—		10—		20—		30—		40—		50—		60—		70—		Total.		Cured and Relieved.		Not Relieved.		Died.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Ligature of Arteries	...	...	1	...	3	...	2	1	2	3	...	...	...	...	...	...	...	...	8	4	8	4	...	...	...	...
Obliteration of Varicose Veins	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	2	...	2	...	...	...	...	...
Plugging of Nostrils	...	...	...	...	1	...	...	...	...	...	1	...	...	1	...	...	...	...	2	1	2	1	...	...	...	...
Excision of Joints.																										
Hip	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	1	...	1
Knee	1	...	2	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	3	1	2	1	1	...	...	...
Wrist	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...
Phalangeal	...	...	...	...	...	...	...	...	2	...	...	...	1	...	...	...	...	...	3	...	3	...	...	...	...	...
Coccyx	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...
Removal of Sequestra:																										
From Head and Face	...	...	1	1	1	1	...	3	2	...	...	...	...	...	...	...	...	...	4	5	4	5	...	...	...	...
„ Upper Extremity	2	...	1	...	...	3	2	1	...	...	4	...	...	...	1	...	...	...	10	4	10	4	...	...	...	...
„ Lower Extremity	5	...	5	2	13	5	5	1	4	...	1	...	1	...	...	...	...	...	34	8	33	8	...	...	1	...
Amputations.																										
Primary:																										
Arm	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1		1	...	...	...	...	...
Forearm	...	...	...	...	2	...	2	...	1	...	...	...	...	...	...	...	...	...	5	...	5	...	...	...	...	...
Parts of Hand	...	...	1	...	10	...	7	...	...	...	1	...	...	...	...	...	...	...	19	...	19	...	...	...	...	...

OPERATIONS.	AGE AND SEX.																							
	Under 5 Years.		5—		10—		20—		30—		40—		50—		60—		70—		Total.		Cured and Relieved.		Not Relieved.		Died.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Amputations (*continued*).																										
Primary (continued):																										
Thigh	...	...	1	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	3	...	2	...	...	...	1	...
Parts of Foot	...	...	1	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...	6	...	...	...	...	...
Secondary:																										
Arm	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	1	...	...	...	...
Part of Hand	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...
Thigh	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...
Part of Foot	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...
For Disease:																										
Arm	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...
Forearm	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	2	...	2	...	...	...	...	...
Parts of Hand	...	...	...	...	1	...	1	...	...	...	2	3	1	1	1	...	...	...	6	4	6	4	...	...	...	...
Hip Joint	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...
Thigh	...	...	1	...	3	1	3	1	5	...	...	...	1	...	...	...	...	...	13	2	11	2	...	...	2	...
Leg	...	...	...	...	1	...	...	1	2	...	...	...	...	...	1	...	...	...	4	1	4	1	...	...	...	...
Ankle Joint	...	...	...	1	2	1	...	1	3	...	...	...	...	...	...	...	...	...	5	3	4	3	...	...	1	...
Parts of Foot	...	...	...	...	...	...	1	...	1	...	...	...	...	...	1	...	...	...	3	...	3	...	...	...	...	...
Removal of Tumours.																										
Cancer:																										
Breast	...	...	...	...	...	...	...	...	...	5	...	7	...	9	...	1	...	...	...	22	...	20	...	...	...	2
Tongue	...	...	...	...	...	...	...	...	...	...	1	...	3	...	1	...	...	...	5	...	5	...	...	...	...	...

OPERATIONS.	AGE AND SEX.																									
	Under 5 Years.		5—		10—		20—		30—		40—		50—		60—		70—		Total.		Cured and Relieved.		Not Relieved.		Died.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Removal of Tumours (*continued*).																										
Cancer (continued):																										
Lip	...	...	...	...	...	...	...	...	...	...	1	...	4	...	3	...	2	...	10	...	10	...	...	...	...	...
Penis and Scrotum	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	1	...	3	...	2	...	...	...	1	...
Clitoris	...	...	...	...	...	...	...	...	...	...	..	1	...	...	...	...	...	...	...	1	...	1	...	...	...	...
Skin	...	...	1	...	...	...	...	...	...	1	...	1	...	2	...	1	...	..	1	5	1	5	...	...	...	...
Lymphatic Glands	...	...	...	...	...	...	...	...	...	...	...	2	...	1	...	...	...	...	...	3	...	2	...	...	...	1
Adenoid Tumours:																										
Breast	...	...	...	...	...	...	...	2	...	1	...	2	...	1	...	1	...	...	...	7	...	7	...	...	...	...
Parotid Gland	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	1	1	1	1	...	...	...	...
Connective Tissue Tumours:																										
Fatty	...	...	...	...	...	...	1	1	2	2	1	3	1	1	1	...	...	..	6	7	5	7	...	...	1	...
Fibro-cellular	...	...	...	...	...	2	...	3	...	2	...	...	...	...	...	...	...	...	...	7	...	7	...	...	...	...
,, Recurrent	...	...	...	...	...	...	1	...	...	...	...	...	6	...	1	1	...	1	8	2	8	1	...	...	...	1
Exostosis	...	...	...	...	...	3	...	1	...	...	...	...	...	...	...	...	...	...	...	4	...	4	...	...	...	...
Enchondroma	...	...	...	1	...	1	2	...	...	...	...	...	...	...	...	...	...	...	2	2	2	2	...	...	...	...
Epulis	...	...	...	1	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	3	...	3	...	...	...	...
Sebaceous Tumours	...	3	...	...	...	1	...	4	3	2	1	1	...	2	...	...	...	...	4	13	4	13	...	...	...	...
Bursal Tumours	...	...	...	...	...	...	...	4	...	1	...	2	...	...	1	...	...	...	1	7	...	7	...	...	1	...
Vascular Tumour of Urethra	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	2	...	2	...	...	...	...
Nævus	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	...	...	...	...
Polypi:																										
Nasal	...	...	...	...	...	...	...	...	1	...	...	2	...	...	...	...	...	...	1	2	1	2	...	...	...	...

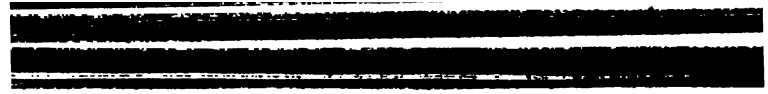
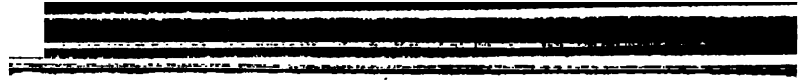
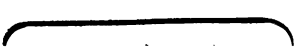
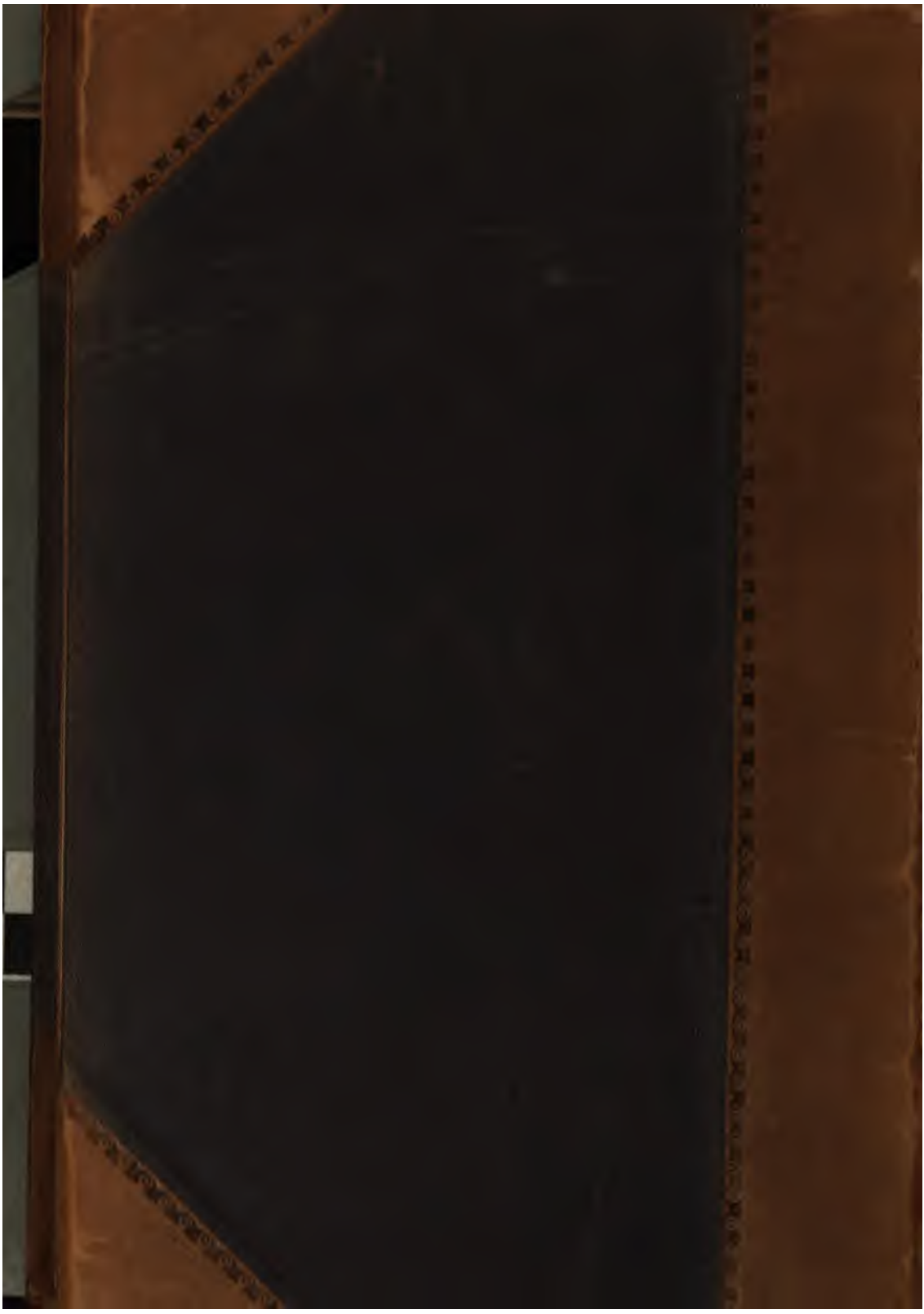
OPERATIONS.	AGE AND SEX.																							
	Under 5 Years.		5—		10—		20—		30—		40—		50—		60—		70—		Total.		Cured and Relieved.		Not Relieved.		Died.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Removal of Tumours (*continued*).																										
Polypi (*continued*):																										
Ear	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...
Uterus	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	2	...	2	...	...	...	...
Tonsils removed	...	...	...	...	1	1	1	...	...	...	...	...	...	...	...	...	...	...	2	1	2	1	...	...	...	...
Testicle removed	...	...	...	...	...	...	3	...	2	...	1	...	...	...	...	...	...	...	6	...	6	...	...	...	...	...
Not classified	...	...	...	...	...	2	...	1	...	1	...	...	...	...	...	...	...	...	...	4	...	4	...	...	...	...
Removal of Foreign Bodies.																										
Loose Cartilage from Knee-Joint	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...
Needle from the Heart	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...
Bullets removed	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	1	1	1	...	...	...	...	1
Other Foreign Bodies removed	1	...	1	...	...	1	2	3	...	...	...	...	...	...	...	...	...	...	4	4	4	4	...	...	...	...
Removal of Calculi.																										
By Lithotomy—Lateral	3	...	3	...	3	...	1	...	1	...	1	...	3	...	...	...	...	...	15	...	13	...	...	...	2	...
By Lithotrity	...	...	...	...	...	...	1	...	...	...	1	...	1	...	...	...	1	...	4	...	2	...	...	...	2	...
By Dilatation of Urethra	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...
From Urethra	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	1	...	...	...	1	...
Incisions.																										
Ovariotomy	...	...	...	...	...	...	...	3	...	1	...	...	...	...	...	...	...	...	...	4	...	2	...	...	...	2

OPERATIONS.	AGE AND SEX.																									
	Under 5 Years.		5—		10—		20—		30—		40—		50—		60—		70—		Total.		Cured and Relieved.		Not Relieved.		Died.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Incisions (*continued*).																										
Tracheotomy	2	2	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	3	...	2	...	...	2	1
Gastrotomy	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...
Colotomy	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	2	...	...	...	...	...	2
For Hernia:																										
Umbilical:																										
Herniotomy—																										
Opening of Sac	...	...	...	...	...	...	...	...	...	...	...	2	...	2	...	1	...	...	...	5	...	2	...	...	...	3
Inguinal:																										
Herniotomy—																										
Opening of Sac	1	...	...	...	...	...	...	...	...	...	4	1	...	...	1	...	1	...	7	1	4	1	...	...	3	...
Without opening	...	...	...	...	2	...	...	...	1	2	...	...	1	...	1	...	...	...	5	2	4	2	...	...	1	...
Femoral:																										
Herniotomy—																										
Opening of Sac	...	...	...	...	...	...	...	1	...	2	...	2	...	1	...	2	...	1	...	9	...	2	...	...	...	7
Without opening	...	...	...	...	1	...	...	...	...	...	...	...	2	...	2	1	...	1	3	4	3	2	...	...	...	2
Fistula in Ano	...	...	...	...	4	3	4	3	8	5	6	...	4	1	...	...	...	...	24	12	23	12	1	...	...	...
Fistula in Perinæo	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...
Hæmorrhoids—																										
By Excision or Ligature	...	...	...	...	...	...	...	3	1	2	1	1	...	...	1	...	...	...	3	6	3	6	...	...	...	...
Fissure of the Anus	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	1	1	1	1	...	...	...	...

OPERATIONS.	AGE AND SEX.																							
	Under 5 Years.		5—		10—		20—		30—		40—		50—		60—		70—		Total.		Cured and Relieved.		Not Relieved.		Died.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Incisions (*continued*).																										
Tenotomy	2	4	1	3	3	5	1	1	...	1	...	...	...	...	...	...	...	...	7	14	7	14	...	...	...	...
Reparative Operations.																										
Harelip	4	13	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	7	13	7	13	...	...	...	...
Cleft Palate	...	1	1	1	3	4	1	...	...	...	...	...	...	...	...	...	...	...	5	6	5	4	...	2	...	...
Phimosis	9	...	6	...	1	...	3	...	...	...	...	...	...	...	...	..	...	...	19	...	18	...	...	...	1	...
Paracentesis—																										
Ovarian	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	1	...	...	...	1	...	1	...	...	...	...
Of Hydrocele	...	...	...	...	4	...	2	...	2	...	3	...	...	...	...	...	...	...	11	...	11	...	...	...	...	...
Ruptured Perinæum	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	2	...	2	...	...	...	...
Parotid Fistula	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...
Recto-Vesical Fistula	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	...	...	...	...	...
Plastic Operation for New Nose	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...
Ingrowing Toe-Nail	...	...	...	...	2	...	...	1	...	...	...	...	...	1	...	...	...	...	2	2	2	2	...	...	...	...
Imperforate Anus	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...
False Joint following Necrosis—Pegging of Ends of Bones	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...

SUB-TABLE, SHOWING THE NUMBER OF CASES OF ERYSIPELAS, PYÆMIA, &c.

DISEASES.	Under 5.		5–10.		10–15.		15–25.		25–35.		35–45.		45–55.		55–65.		65–75.		75–85.		Total.		Deaths.		Per-centage of Deaths.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Erysipelas—																										
Admissions	...	1	2	1	1	...	2	2	4	2	1	2	1	6	1	1	...	...	...	...	12	15	1	4	8·5	26·6
Occurring in Hospital	1	1	1	...	...	1	1	1	3	1	3	2	3	1	...	...	2	...	...	...	14	7	2	4	14·2	57·0
„ after Operations	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...
Phlegmonous Inflammation—																										
Admissions	1	...	2	...	3	...	6	1	9	...	10	...	8	3	3	2	1	...	1	...	44	6	1	...	2·3	...
Occurring in Hospital	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	1	1	...	...	...	...
„ after Operations	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	1	1	1	...	100·0	...
Diffuse Cellulitis—																										
Admissions	...	...	1	1	8	7	8	...	7	4	8	4	4	2	1	2	...	1	...	...	37	21	...	...	...	...
Occurring in Hospital	...	...	1	...	2	...	2	...	1	...	...	2	...	1	1	...	...	...	...	...	7	3	...	...	...	...
„ after Operations	...	...	...	...	1	...	1	...	...	...	1	...	1	...	...	1	...	...	1	...	5	1	1	1	20·0	100·0
Pyæmia—																										
Admissions	...	...	...	...	1	...	...	...	2	...	...	2	...	...	...	...	...	...	...	...	3	2	1	1	33·3	50·0
Occurring in Hospital	...	...	...	...	...	1	1	2	...	...	...	...	...	...	...	...	...	...	...	...	1	3	1	3	100·0	100·0
„ after Operations	...	...	...	...	1	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	3	...	2	...	66·6	...
Farcy—																										
Admission.....	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
Gangrene—																										
Occurring in Hospital	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	2	...	...	...	...	...

SUB-TABLE (continued).

DISEASES.	Under 5 Years.		5—10.		10—15.		15—25.		25—35.		35—45.		45—55.		55—65.		65—75.		75—85.		Total.		Deaths.		Per-centage of Deaths.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Phagedæna— Admissions	...	1	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	4	...	3	...	75·0
Delirium Tremens— Occurring in Hospital	...	...	...	...	...	...	...	...	2	...	5	...	2	...	1	...	...	...	...	...	10	...	4	...	40·0	...
Smallpox— Occurring in Hospital	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
Scarlatina— Occurring in Hospital	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...
Rheumatic Fever	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...